

# MOTOR BOATING

10  
CENTS

The Lead  
Gaining

*"You'll always be proud of your Elco"*

**Elco**  
 MOTOR BOATS



*28 ft. Elco Express*

### A Vacation is Incomplete Without a Motor Boat

Wherever you go you will find boating the chief attraction. Be independent this year and own your own boat. Investigation will show the cost to be less than you think.

For ten years our aim has been to bring the ELCO EXPRESS up to the standard of the finest automobile—its equal in reliability, ease of control and quiet operation. You will recognize this achievement in our 1913 model.

**Elco Models Ready for Immediate Delivery**

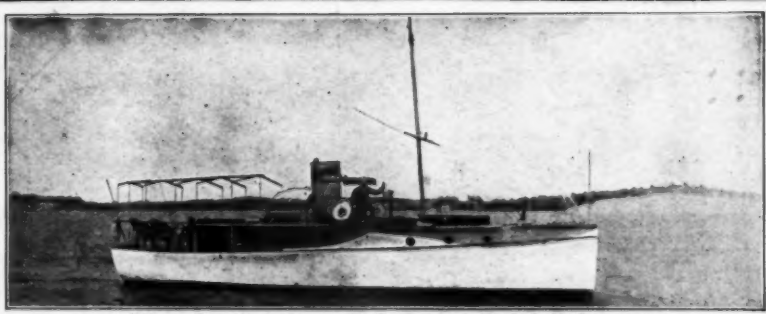
28-ft. Elco Express—Speed 20 miles guaranteed.	36-ft. Elco Cruiser—Double Cabin, sleeps 5 comfortably.
35-ft. Elco Express—Speed 24 miles. Equipped with Hartford Self Starter.	45-ft. Elco Cruiser—Private Stateroom, sleeps 8.
Elcoplanes—30 to 50 miles guaranteed. Built under Elco and Fauber Patents.	

*Write for new catalogue of "Marine Views."*

**Address: Elco 201 Avenue A, Bayonne, N. J.**

27 minutes from Liberty and 23rd Street Ferries, Central R. R. of New Jersey, to West 8th Street.

Telephone 470 Bayonne.



**THE PLAZA BANK**  
 5th Ave. & 58th St.  
 NEW YORK,  
 January 3rd, 1911.  
 G. E. Hughes, Esq.,  
 202 Belgrove Drive,  
 Kearny, N. J.

Dear Sir:

I consider the STANDARD far superior to any other engine manufactured, in fact, I think the engine is in a class by itself. It stands up and delivers the power and costs practically nothing for up keep, being scientifically constructed of the best material.

Yours truly,  
 W. McMASTER MILLS,  
 President.

*"Margo," 43 ft. yacht. 32 H. P. Standard, Fred A. Nathan, owner.*

## VALUE

in a marine engine is simply the ratio of what you get to what you pay. The energy, skill and integrity (our investment) in the

### STANDARD ENGINE

reaps you the greatest returns on your investment

We cannot today give you greater returns for less money in this engine. You cannot get as great returns for the same money in another engine.

The STANDARD principle is to have the first cost make possible the building of an engine of such quality that will bring the STANDARD owner the greatest return, in dollars interest, on his investment. Pure common sense business.

The vast majority recognize this—an ever-increasing majority—increasing with the development of the engine which makes its greater value more apparent.

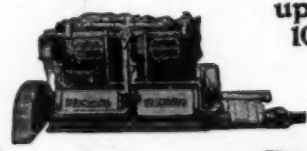
It is the energy, skill and integrity in the STANDARD which saves money to the STANDARD owner. Saves you money always from the minute you become a STANDARD owner.

Let us figure on the engine and the propeller to most economically drive your boat.

Send for catalogue and prices  
 Back of the STANDARD GUARANTEE is the

### Standard Motor Construction Co., 178 Whiton St., Jersey City, N. J.

**"Power up to 1000"**







Wolf's Head II, owned by F. A. Lynn, designed and built by Atkin Wheeler Co.

The First Run of the Season.. Frontispiece	<b>May 1913</b>	New Motor Boat Designs.....25-32
The Meet at Monaco.. <i>Robt. Fletcher</i> . 3		A High-Speed Cruiser..... 25
Warming Up At Monaco.....( <i>Photographs</i> ). 6		A Raised Deck 38-Footer..... 26
The Gulf Coast..... <i>Bradford Burnham</i> . 7		A 60-Footer of Novel Design..... 27
A Medium-Sized Cruiser..... 9		Back to the Caravels..... 28
Reversible Propellers..... <i>Chas. F. Chapman</i> . 10		A Single-Handed Tug..... 29
The Distribution of Motor Boats in the United States.. 12		A Deep-Sea Motor Yacht..... 30
The Amateur's Log Book..... <i>Wm. Harnden Foster</i> . 13		A Small Stock Cruiser..... 31
The Permanent Mooring..... <i>H. W. Loweree</i> . 14		A V-Bottom 42-Footer..... 31
The Prize Contest.....15-20		One Design Power Dinghy..... 32
Putting the Boat Into Commission..... 15		Among the Clubs..... 33
Fitting the Garboard Plank..... 17		Marine Motors .....34-36
Supplying Fuel to the Carbureter..... 19		From MoToR BoatinG Readers.....37-38
The Polar Diesel..... <i>J. Rendell Wilson</i> . 21		New Things for Motor Boatmen.....39-41
Are American Motor Yachts Getting Bigger?.....22-23		Yard and Shop.....42-44
The Diesel of Amundsen's Fram..... 24		Calendar ..... 44

May, 1913

**MOTOR  
BOATING**

Vol. XI, No. 5

## THE NATIONAL MAGAZINE OF MOTOR BOATING

Entered as second-class matter at New York, N. Y., Post Office.

Copyright, 1913 by MoToR BoatinG

Published Monthly by New Publication Company, 381 Fourth Avenue, New York City

G. L. Willson, President

George von Utassy, Treasurer

C. J. Shearn, Secretary

Telephone: 7100 Madison Square

Cable Address: Motoria

10 cents a copy. Subscription, \$1.00 a year

European Agents: Saarbach's News Exchange, Mainz, Germany



After the "fitting out."

The first spin of the season.

Photograph by Letich



# MOTOR BOATING

THE NATIONAL MAGAZINE OF MOTOR BOATING

## The Annual Meet at Monaco.

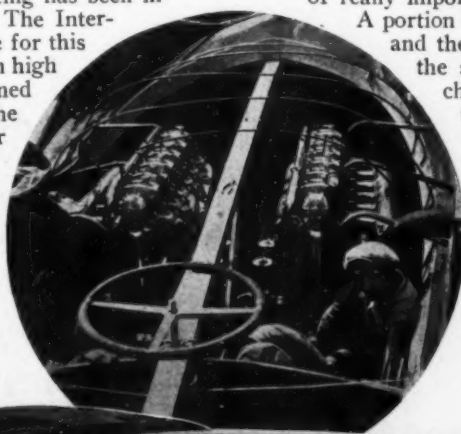
The Exhibition that Proceeds the Eleventh Annual Regatta and a Critical Discussion of the Most Promising Boats and their Motors.

By Robert Fletcher.

FOR the eleventh year in succession Monaco is the scene of the greatest motor boat gathering known to Europe. This year's event is in no way inferior to its predecessors, for although the number of boats is not as high as usual, the quality appears to be better than ever before, while the spectacular nature of the meeting has been increased by admitting hydroaeroplanes. The International Sporting Committee, responsible for this gathering, sees a close connection between high speed motor boats and aeroplanes designed for work over water. Year by year the former have got further out of the water until even the displacement boats are more or less skimmers and it appeared but a natural step from the boat to the flying boat, or, as they express it, from the fish to the flying fish. Flying over water will become, they believe, an important auxiliary of motor boating, and no better spot could be chosen for fostering this idea than the fairy-like shores of the Mediterranean.

This year's flying boat competition is the biggest and most important ever held in Europe, or elsewhere. It has united twenty-six competitors, all but two of which are French. America is not represented, although the Curtiss machines are well known over

No event on the motor boating calendar compares in magnitude with the annual Monaco meet. Once a year the picked craft of Europe are gathered together at Monte Carlo on the Mediterranean for two weeks of exhibition and racing. Many radical designs have made their appearance at this annual event, either to survive the test of competition or to fail and take their place among the class of freaks. This year there is a striking tendency toward greater uniformity of design and of more marked division into classes than ever before. Read Mr. Fletcher's interesting description.—Editor.



Emile Dubonnet's Vonna is the most powerful of the hydroplanes. She is equipped with two 250-h.p. Clement-Bayard motors and was designed by Alfonse Tellier as a challenger for the British International.

here. The explanation given is that no machine could be got ready in time. This is the first occasion on which flying boats have had to do really nautical work. The regulations stipulate that they shall be kept afloat throughout the whole of the meeting, or for sixteen consecutive days. Only in case of really important repairs can they be brought ashore.

A portion of the harbor has been reserved for them and they are moored there in picturesque array, the sight being one which only adds to the charm of this romantic setting. The nautical tests comprise starting and settling on the water, a towing test over a distance of about one hundred yards, being hauled up from a ship's boom, a run round the open sea course without at any moment getting clear of the water, and a climbing test with a glide down to the water while the motor is completely stopped. It is only when they have fulfilled these preliminary requirements that the competitors can start for the two final tests consisting of a 50 mile cruise and a 300 mile race.

Despite the importance paid in the regulations to nautical ability, most of the machines are of the pure aeroplane type with floats attached. In other words they are the various firm's ordinary machines, with floats substituted for or placed in addition to the set of wheels. Only two or three are of the pure boat type, consisting of a hull with passenger room, a





Skisc, the Italian displacement boat and her 600-h.p., eight-cylinder Isotta Fraschini motor.

with first-class seagoing qualities.

There are 78 boats gathered in the exhibition yard. This is a smaller number than on previous years, but is explained by the fact that the committee has this year fixed a speed limit, having had the result of eliminating all the local boats of no interest except to their owners. While the actual starters in the races will be fewer in number the competition will be keener, for in no single class is it possible to pick out a boat that is decidedly superior to its companions. The fleet of 78 is made up as follows: 6 hydroplanes, 16 racers, 18 21-footers, 3 first series cruisers, 8 second series, 8 third series, 10 fourth series, and 9 fifth series. In the cruiser classes the limitations are overall length, cylinder bore, and maximum weight. For the racers there is no other restriction than a maximum overall length of 49 feet. Hydroplanes are also left free, with the exception of the overall length restriction, but while a displacement boat can compete in the hydroplane class, if desired, a hydroplane cannot compete against a racer. The rules stipulate what is and what is not a hydroplane, and in addition the committee has the right to refuse to admit as a racer any boat which it considers to be a hydroplane.

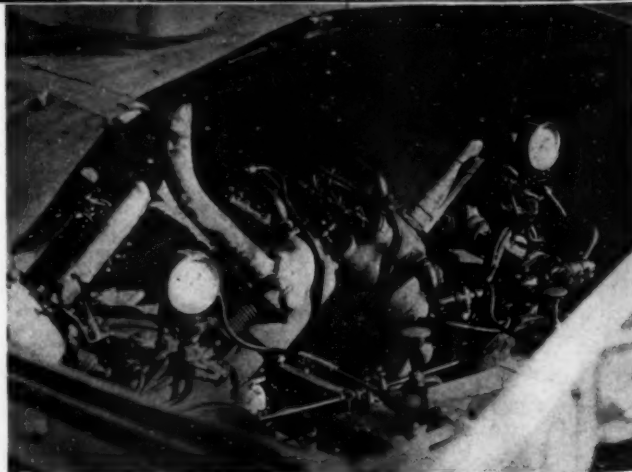
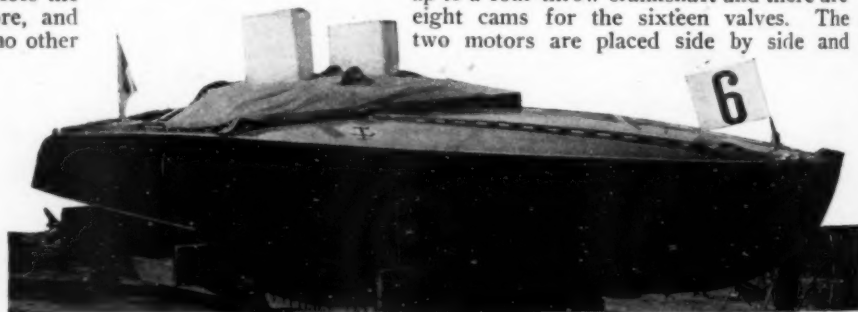
The uniformity in design this year is most striking. Even the clear distinction made between gliders and displacement boats does not prevent a distinct evolution toward a common type. There are scores of so-called displacement boats which only differ from the hydroplanes by reason of the absence of a step. The prevalent design is an evolution of what is known as the Miranda type. Locally it is known under the rather vague definition of the flatiron type. The average boat here has a fine, deep V-section bow, gradually changing into vertical sides, a hard bilge and absolutely flat bottom. There are numerous modifications of this, the fine V-sections developing in some cases into U-sections, but this does not prevent the general design being surprisingly uniform.

In the hydroplane class the most powerful boat is Emile Dubonnet's Vonna, built with the intention of competing in the Harmsworth trophy races next August. The hull is similar to the designs of Alphonse Tellier, and the motors have been supplied by the Clement-Bayard Company. Vonna is a development of the flatiron type of glider with double V-sections forward, slightly concave sides, a hard bilge, a shallow step, and a bottom of a very open V type. Owing to the shape of

the bottom the step entirely disappears on the center line, its depth gradually increasing as it recedes from this line until the maximum is attained at the extreme width of the boat. The sides of the boat consist of three plankings, two being diagonal and one horizontal, and the bottom has four plankings. Vonna carries a couple of six-cylinder engines primarily designed for use on the new French airships. They are a type built to the order of the French government, and are being given their first practical tests afloat before being placed in the nacelle of the airships. The two motors are placed side by side and slightly aft, their drive going forward through a double universal jointed shaft to enclosed spur gearing, and the long propeller shaft running aft directly beneath each motor. The six cylinders are of steel with copper water jackets and have a bore and stroke of 6.1 by 7.8 inches. The valves are inclined in the head, their operation being by means of an overhead enclosed camshaft worked from a vertical shaft and a couple of pairs of bevel pinions at the rear of the motor. A cross shaft drives the magneto and water pump, and the oil pump is at the rear and external.

A peculiarity of this power plant is the spring mounting of each engine. Each motor is placed on a steel channel section frame having transverse laminated car type springs shackled to hangers on the fore and aft members of the boat. The gearing is also spring mounted, the frame for this housing being entirely independent from that carrying the motor. Although the drive is indirect, there is no reduction, the screws turning at engine speed, which is declared to be 1500 to 1600 revolutions. Each motor develops 250 h.p., giving a total of 500 h.p. This is the greatest power to be found on any of the boats at Monaco. The spring mounting of engine and gearing is an airship idea, this system being adopted on all the Clement-Bayard dirigible balloons in order to diminish vibration. It has not previously been tried on motor boats, but it is believed that will protect the engine base from shocks and prevent the breakage of crankcase hangers, which was a trouble on some previous light-weight high-powered motors.

Tellier has a second boat in this class of very similar design to Vonna, but of shorter overall length and differing entirely in its power plant. It is Philippe Leo's Sunbeam, equipped with a couple of Sunbeam 8-cylinder motors, developing 120 h.p. each. The engines are a development of a recent racing car type, measuring 3.1 by 5.9 inches bore and stroke. Each set of four cylinders is a single casting, with integral water jackets and valves on one side, the two groups being mounted in V on an aluminum crankcase. The connecting rods are forked up to a four-throw crankshaft and there are eight cams for the sixteen valves. The two motors are placed side by side and



Philippe Leo's Sunbeam, powered with two 120-h.p. Sunbeam motors. She is similar in design to Vonna.

drive separate propellers at engine speed. Although not having the same power as Vonna, it is believed that Sunbeam will be but little inferior in speed, for her displacement is considerably lower.

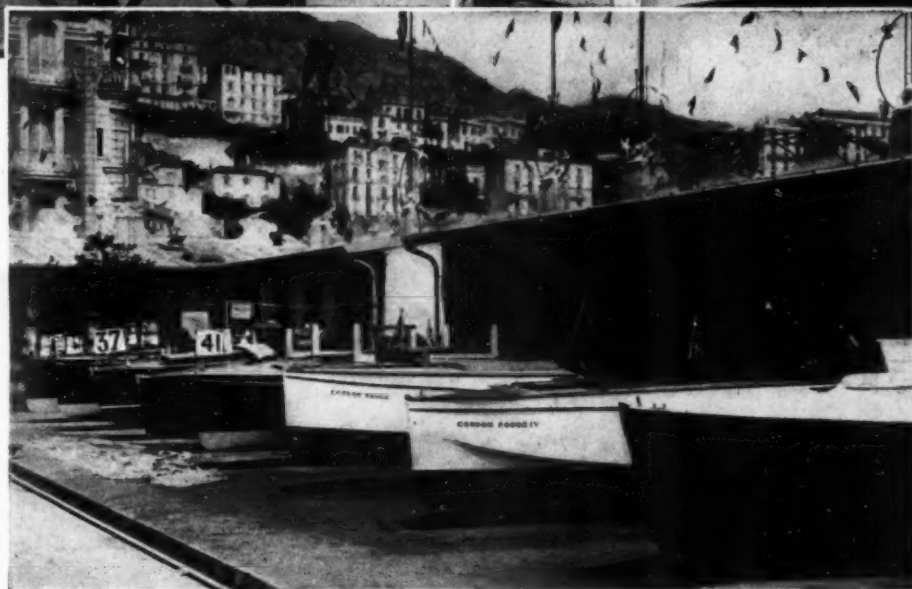
placement boat, Ricardo de Soriano's Sigma IV will doubtless run as a glider. Paul Tissandier's Flyer, designed by Count de Lambert, has been late in preparing and is not expected to arrive in time



Annette III, the German monoplane, built by Lürssen and powered by Saurer.

The two most formidable competitors of Vonna and Sunbeam are Santos-Despujols and Le Quatre, both built by Victor Despujols. Santos-Despujols carries a 6-cylinder Despujols of about 300 h.p.; Le Quatre has a big 4-cylinder Fiat motor. The hulls are very similar in design, although differing in length, Santos-Despujols

measuring 30 feet and Le Quatre 26 feet. These boats are of the flat-bottom U-section type with a moderate step and a deep V-section displacement type bow, being a development of the Brasier-Despujols and Gregoire types of last year. Aboard Santos-Despujols is a Despujols 6-cylinder motor of 5 by 9 inches bore and stroke, having its six cylinders cast separately, but connected together by longitudinal bolts so as to form a common water jacket for the entire group. There are four valves per cylinder mounted horizontally near the head, operated by camshafts and push rods with bell cranks on each side, and maintained on their seats by laminated springs. The motor is set considerably out of the center line and the rudder post is also offset as far as possible. The Fiat engine aboard Georges Barriquand's Le Quatre is a huge monobloc of 7.4 by 9.8 inches bore and stroke, having valves mounted vertically in the head and entirely enclosed by an aluminum cover, this disposition adding to the height of the engine and considerably increasing its bulky appearance. Although a dis-



Above Santos Despujols, a 30-footer with a 300-h.p. Despujols motor. Below the famous British 21-footers that have become probably the most popular class of the meet. Fourteen are from England, three from France and one from Italy.

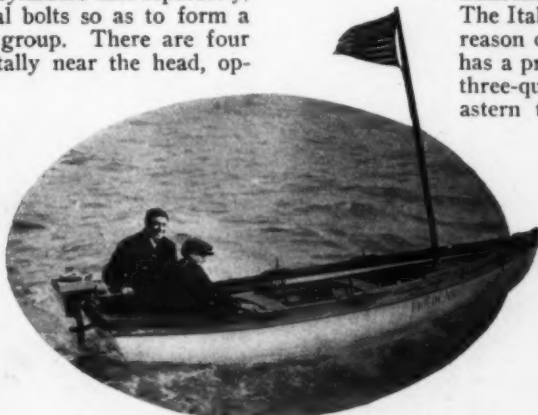
The fourth series cruiser Minnehaha II is really a monoplane.

for the races. It is a very light hull fitted with an aeroplane motor driving an aerial propeller.

In the racer class the surprise of the meeting is the Italian boat Skisc. It was not known that the Italians were making any great effort this year, but the appearance of Skisc shows that they have got a boat

quite capable of winning the Coup des Nations, the most important trophy offered for competition, particularly if weather conditions are somewhat rough. Given a calm sea, one of the hydroplanes ought to be able to secure this prize, but in broken water Skisc will be very hard to beat by Vonna, Sunbeam, Le Quatre, or Santos-Despujols. The Italian differs from her French rivals by reason of the absence of a flat bottom. She has a pronounced keel throughout more than three-quarters of her length, it being only full astern that her bottom becomes absolutely

flat. Her bow is very fine, with a certain amount of flare; she has a clean run and a pronounced tumble home in her after sections. In general she recalls last year's Sciata with numerous pleasing improvements. Her power plant consists of an 8-cylinder Isotta-Fraschini motor of 5.9 by 9.8 inches bore and stroke. The cylinders are in Indian file and although consisting of two sets of four cast in pairs with screwed on

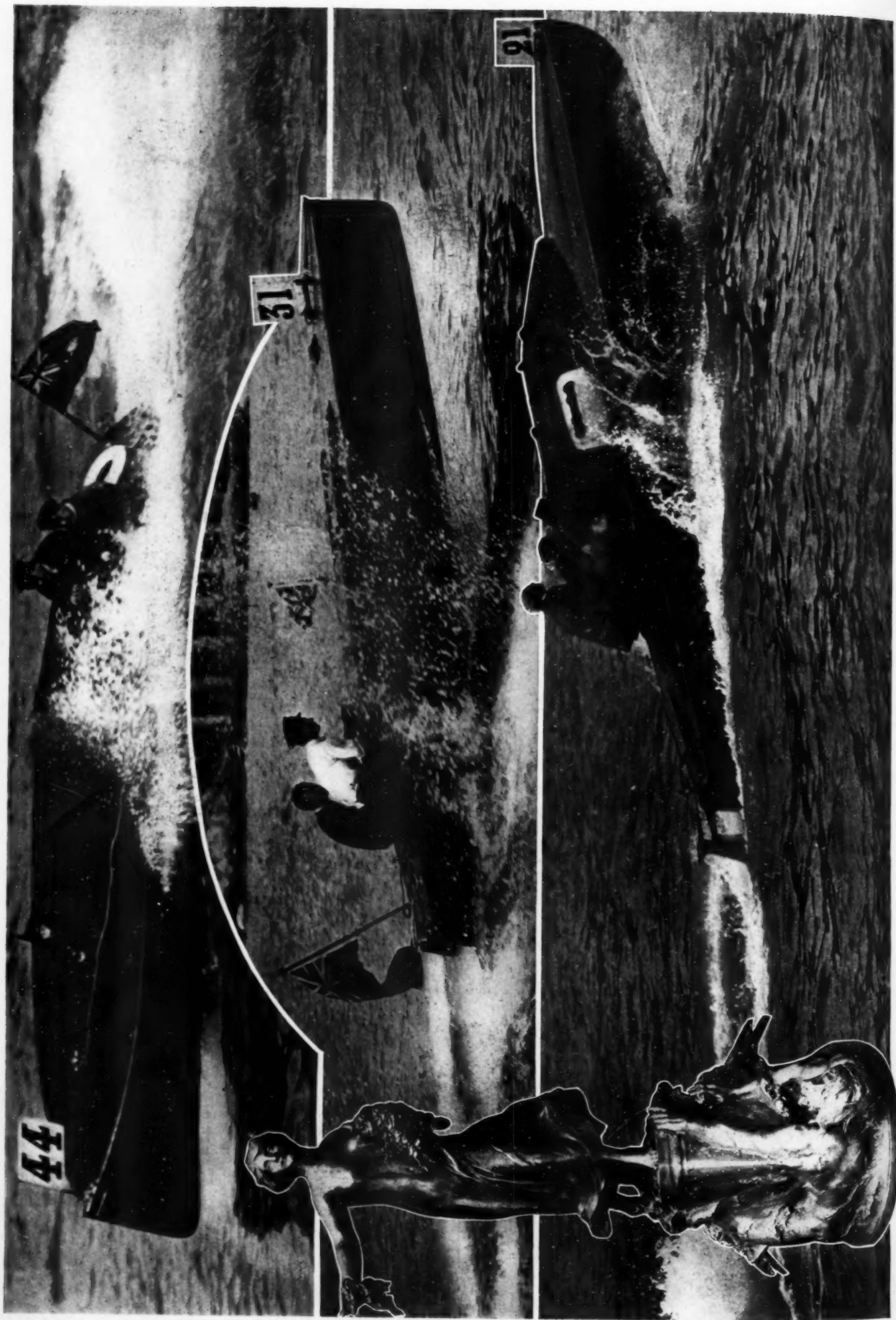


The Evinrude represents America.

(Continued on page 62)



# Racing at Monaco.



Two of the famous British st-footers and the French racer J'en Veux contestants in the Monaco races. Note how the top boat heels inward on the turn. The trophy is that offered by the Prince of Monaco for the mile and kilometer trials.



# The Gulf Coast.

Querida II Drops Hook at  
and Recrosses the Everglades.  
Her 2500 Mile Cruise to Mecca.

By Bradford Burn-  
Photographs by Alfred F.

Tampa Bay  
Completing  
U. S. A.

ham.  
Loomis.



Fellow travelers from New York to Tampa.

WELL, our cruise to "Mecca" is history and the only thing left is to compile statistics—to figure the number of gallons the old girl drank; how many billion times the propeller revolved; whether the number of oranges consumed equaled the number of casualties reported in the Great Okeechobee Mosquito Massacre and, finally, the all-important question of on which side of the ledger the balance stands. But as neither the skipper nor the chief are mathematically inclined, suppose we forget the whole business, and think only of the vivid high lights composed of the major episodes of the cruise and shaded by the thousands of minor incidents which contribute equally in forming the memory picture to which time alone can supply the correct perspective. But even now before the tan begins to fade from our shoulders, we are loud in our affirmation that we wouldn't have missed it for a universe, in spite of its Arctic beginnings, its shallow water trials and tribulations, its culinary disasters, and its mosquito capitulations. In fact, it may even be in part on account of these very things, as well as its glorious excitement in big seas and brisk winds, its inspiring sunrises and sunsets, its wealth of rare natural beauty, its fine hunting and fishing, its glorious plunges over the side, and its delicious flap-jack parties that we make this assertion. And after five months of compressed housekeeping aboard Querida II, life in a New York apartment will be quite bearable.

Instead of continuing to the mouth of the Father of Waters, we let Tampa have the distinction of being our most distant port, and then retraced our way to Miami.

It's almost exactly one hundred and fifty miles from Fort Myers to Tampa by the route taken by Querida II, forty-five of which lies outside. Chugging down the Caloosahatchee—which we have just learned is Seminole for Beautiful River instead of Crooked River, and that it ends in *ee* and not *ie*, below Fort Myers we tried to accustom ourselves to changed conditions. Now we found a northeast wind the most favorable for fair weather and smooth seas; now, the mid-day sun was to be behind us as we steered northward; now, motor boats

This is the last chapter of Querida's cruise, which Mr. Burnham has written of so interestingly in the recent issues of MoToR BoatinG. Running up the west coast of Florida to Tampa and then retracing her course across the Everglades, she finally drops anchor at Miami for a well-deserved rest after 2500 miles of ocean, canals, lakes and rivers.—Editor.

were less commonly passed, and small ones from the east coast and northern ports were very, very rare.

The River from Myers down is broad and well buoyed or rather "beaconed" and at Punta Rassa, eighteen miles below Myers it enters San Carlos Bay. Here are first order range lights and second class nuns and cans, a noteworthy rarity in southern waters. With the southern end of Pine Island on our starboard beam, we ran down the Bay toward Point Ybel light, the most southerly lighthouse on the Florida west coast, except the Keys, till we came to nun number 8. We then rounded up toward St. James "City" on Pine Island passing it close to. We wiggled through some shallow water with the help of the chart and ran Pine Island Sound all right, leaving beautiful Useppa Island, a tarpon headquarters, on the port hand. Soon thereafter we came to Boca Grande (Big Mouth), at the entrance to Charlotte Harbor, of which Punta Gorda is the principal port. Here we lay over night and prepared for outside work.

Calm seas and a helpful southeast breeze greeted us next day as Querida chugged out the Inlet turning northward through the seven foot slue which runs close to the point at the north side of the inlet. The run up the beach to Sarasota Inlet was made without special incident. The beach runs almost straight in a NNW and SSE direction with few points and bays and with two or three possible inlets of which Casey's Pass is the best.

It is a cinch to enter Sarasota Bay, for although the inlet is unbuoyed the pass is wide and the water clear. We kept close to the south shore till beyond the inside point, then rounded up into broad Sarasota Bay, avoiding numerous sand bars with the chart's assistance. At the northern end of the bay we shoved the anchor off the edge of the deck for the night. We were off the fishing village of Cortez; but we were a good ways off, and we would like

some good gentlemen of Cortez to show us how he gets in to his home shore. We couldn't.

Tampa Bay seemed quite like home, for it seemed more like northern waters than anything we had seen south of the Chesapeake; except that sand instead of rock predominates, it reminded the skipper strongly of Buzzards Bay. It is broad and long and deep, well buoyed and lighted, and a splendid cruising ground for able small boats. True, it can get most tremendously agitated, but so can any place where cruising is really worth while. It is normal, and Querida knew how to deal with it, which is not the case with Lake Okeechobee.

We ran up its whole length to Tampa, the metropolis of the west coast, where the Negro is largely replaced by the Cuban, and where cigars are common as tooth picks. Here again we were impressed with the scarcity of pleasure motor craft as compared with the east coast. It would seem that the west coast is a cruising ground little frequented and little known about by northern owners of small boats. And it certainly is without a peer in the South, provided one has a good able boat and enjoys the spice that comes with crested waves and occasional blows. We, at any rate, want to see it again, which is more than we would say of the east coast waterways until they are cleaned out, were it not for what lies beyond them.

At Tampa we were received and heralded by the press much as we imagine anyone who had paddled a canoe from the South Pole would be greeted, and after stoutly declaring that we had come for the sport of it and not on a wager, we visited one of the big cigar factories and came away with pockets crammed with three for fifties.

A pleasant run of two hours and a half, brought us to St. Petersburg, a rising and pretty resort on the north side of the Bay, some 23 miles below Tampa. It was mid-afternoon and we found the populace in swimming and soon joined them in the surf of this Floridian Atlantic City. The water on the west coast is much cooler than it is on the east coast in the same latitude, and we found a trace of the old exhilarating shock which

a dash in the Maine surf brings.

Across the broad bay and somewhat to the southward is the outlet of the Manatee River, and for this invisible point we set our course next morning. It was much like crossing the Sound from Bridgeport to Port Jefferson on a mild mid-summer day, and before we had lost the shore line behind us the opposite side was plainly discernible. We went up the Manatee to Bradentown, and after lunch and a squint at the surrounding country which one cannot view in any direction without seeing the gold of the orange, we got underway for Sarasota. It was after dark when we made it, which may, or may not, account for our pausing on a sandbar at the entrance for quite an appreciable period.

The next day we had stellar attractions. It commenced with a perfect dawn, followed by a perfect sunrise into a clear sky and upon calm seas. We were up early enough to bring back to mind the 1:30 A.M. start we had made by mistake at Southport, away back in the middle ages, and by seven o'clock were again outside upon the Gulf of Mexico. The absence of land to the westward seems strange at first to one accustomed the Atlantic seaboard, but we were most particularly glad to have it there that morning. We had not been outside on hour before the light southeast wind decided to increase its activities, and before noon its energy was rewarded by developing into a good husky blow.

Still, by hugging closely the shore to eastward we had comparatively smooth going of it. By way of divertisement the skipper threw over a line with a kingfish spoon and white rag attached, and without slowing down to troll, soon hooked a fat three-footer, letting the unsteered boat describe a generous circle while he pulled in the line.

The Gulf of Mexico is not usually thought of as a harbor of refuge, we feel quite sure, and when we found a tiny fishing boat serenely anchored out in the Gulf at the entrance to Boca Grande, with the occupants not fishing or otherwise employed, we were decidedly puzzled. We were soon to be enlightened. The tide was flooding strong, a squall had but just passed, and that healthy east wind had a clear stretch of twenty miles across Charlotte Harbor to fool with. Consequently, when we left the calm waters of the Gulf to enter Boca Grande, we ran into some real live music. Querida was thoroughly surprised at first, and dipped her nose good and deep into the green body of a breaking comber. She came up, snorting, and shaking herself free, got down to business. With careful spinning of the wheel, and unfaltering service on the part of the Fay and Bowen, she wriggled through and over, and under, the rough seas with the ease of a porpoise. Her action was beautiful, and although she jumped clear of the water as far aft as amidships, and skidded and side stepped, and bucked and high kicked, she never dived, and no solid water came into

the cockpit. But it was our liveliest few moments on the entire cruise and we worked her over to a nearby pier we hadn't intended to go to with all dispatch, tying up with heavy hawser in the lea of a giant, sea-going dredge.

It was squally all the rest of the day, in spite of that perfect dawn and sunrise, but after a while the tide turned and the sea became gentler. We tightened our oilers and ran across to beautiful Usepe Island, for the night, taking Easter dinner at the famous Tarpon Inn. We also scraped the dried salt from our blistered faces, and for once condescended to sponge the stinging epidermis with soothing witch hazel. We are still some decades away from being old salts.

By noon of the second day out from Tampa Bay we were again at Fort Myers, moored close to the beautiful cruiser Nemes, formerly the Ilys of ocean racing fame. Here we stocked up for the return across the Everglades, and toward sunset ran up the Caloosahatchee a few miles, anchoring for the night among the "Beautiful Islands" on the edge of the chart.

The Caloosahatchee is an exceedingly interesting river to the northerner. Its scenery is the most tropical found on any

made LaBelle, 44 miles above Ft. Myers by the river. A crow would find it perhaps thirty. Learning that the chief avocation of LaBelle citizens is duelling with buckshot loaded shot-guns at fifteen feet, we got underway again with much celerity, and made for the wilderness ahead.

Above LaBelle we noticed the rapid and complete change in the character of the country. Trees became few, and the undergrowth vanished, giving way to a stretch of fairly dry pasture land. At this juncture the skipper was below—a rare occurrence—when the chief suddenly thrust his face into the companionway, and yelled:

"Come up quick and see some Caloosahatchee reindeer." Instantly the dignified skipper sprang from the companionway with excitement on countenance and 30.30 in hand.

"Where away?" he whispered tensely, scanning the horizon with eagle eye.

"There; see!" replied the chief, pointing, with face carefully averted.

Looking in the indicated direction the excited skipper beheld—as peaceful a herd of sleek cattle as ever grazed on Kansas pasture. Adroitly the chief dodged the kerosene oil can, and the skipper retired to the cabin to fulminate for an hour or more until the weeds of Lake Hicpochee claimed his attention.

We crossed this smaller lake, found the entrance to Three-Mile Canal, bucked its racing current, and at 4.24 P.M. anchored for the night beneath the beacon cypress on the shores of Okeechobee. Hardly had the engine ceased when the afternoon tea of the mosquitoes began. After dark it was followed by a reception the like of which we hope never to have a part in again. They made a noise like an immense swarm of bees, and were about the same size. Lake Okeechobee mosquitoes are especially musical and especially large, while their vitality is amazing. On account of their size and musical gifts the natives are wont to catch them, paint them yellow, and sell them as canary birds, which would be a good story, but for the fact that there are no natives.

There was little sleep aboard Querida II that night. Somehow or other dawn finally came according to schedule; but before it was really light we arose in wrath, and not stopping for the formalities of dressing or breakfasting, got the old faithful going, after clearing away enough skeeters from the cockpit to give the carburetor air.

The time has come to correct another mis-statement in the last number and to apologize for it. The correct course for the outside route across Lake Okeechobee is NE from the lake end of the Fort Lauderdale canal, till off Observation Island, some 25 miles distant.

This course leads straight out of South Bay, leaving Rita Island about one-half mile to port and keeps well clear of the reef inshore mentioned in the last article. Rita Island is the only island of any size left to port on this course till Observation is reached. It has a house near the northern end. The NE course will bring you about a mile and a half off Observation Island, which is also left to port. The island lies well out in the lake and is about ten miles from the Three Miles Canal. After well past it, bring it to bear on your port stern quarter and heading about W or W ½ N, run till about two miles from the western shore. Then steer SSW and in a short time you will pick up the cypress at the canal entrance. There are other trees along the lake shore but none so high and no other cypresses.

We followed the foregoing courses reversed  
(Continued on page 64)



A thorough system of screening failed to exclude the ravenous mosquitoes.

navigable river in the United States. One is inclined to hurry from under some low overhanging limb, lest a boa constrictor drop aboard, and the trees seem as though they should be filled with monkeys. And yet the inclination is to linger, too, amid the fascination of the dense foliage and thick undergrowth, which gives the river a perpetual shadow. Here and there the moss-laden live oaks and the impenetrable mangroves are broken for a narrow space by a clearing, and in the vista opened up the green trees of some large orange plantation are glimpsed, with the picturesque packing house, in the foreground, its sides and roof thatched with dried palm leaves.

Whether a fellow wants to linger or not he is obliged to before he gets far up the stream, for the Caloosahatchee does its best to make him go the other way. Yet our persistency was finally rewarded, and at noon next day we





## A Medium Sized Motor Yacht.

**C**HIPPER II is a 65-foot motor yacht just completed at the yards of the New York Yacht, Launch & Engine Company, of Morris Heights, New York City, for Mrs. Alice D. Wetherill, of Philadelphia. While not radically different from a number of boats of her class turned out by the same concern, she is nevertheless an interesting boat and well worthy of special notice.

The new boat represents about the most practical length for a cruiser of medium size for it is possible to employ the deck house, sinking it sufficiently to overcome excess top hamper and still leaving enough headroom beneath it so that the motor may be installed at this point. In a much smaller boat this would not be practical.

In type the boat is raised deck, this deck being continuous with the roof of the cabin trunk, which by the way, extends almost to the sides of the boat, eliminating the usual runways and giving more room, both above and below. The bridge is just abaft the deck house which protects it and it is raised a bit above the deck by a small trunk over the galley. There is a flush deck aft. The hull is well designed for cruising work, having sufficient draft and deadrise for comfort in rough water. The stem is slightly curved and the stern is of the

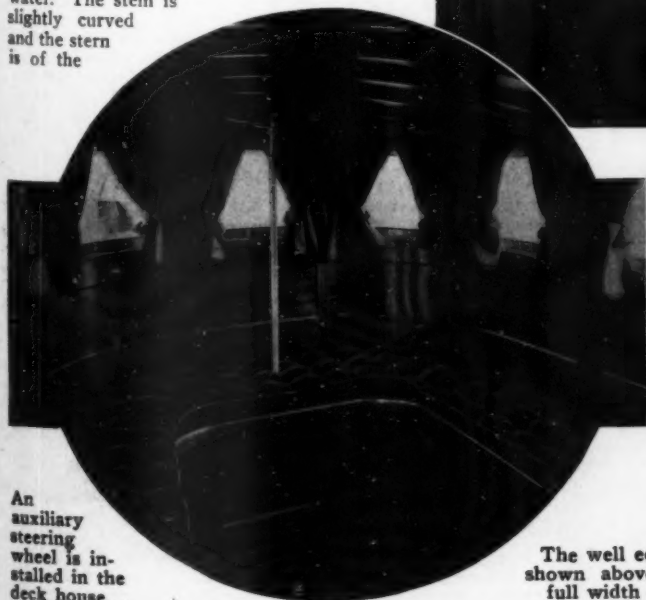
### A 65-Foot "Twentieth Century" Cruiser for Mrs. Alice D. Wetherill of Philadelphia.

so-called whale boat type, the keel extending in a gently sloping unbroken line from fore foot to skeg, a point that should make for easy steering in bad weather.

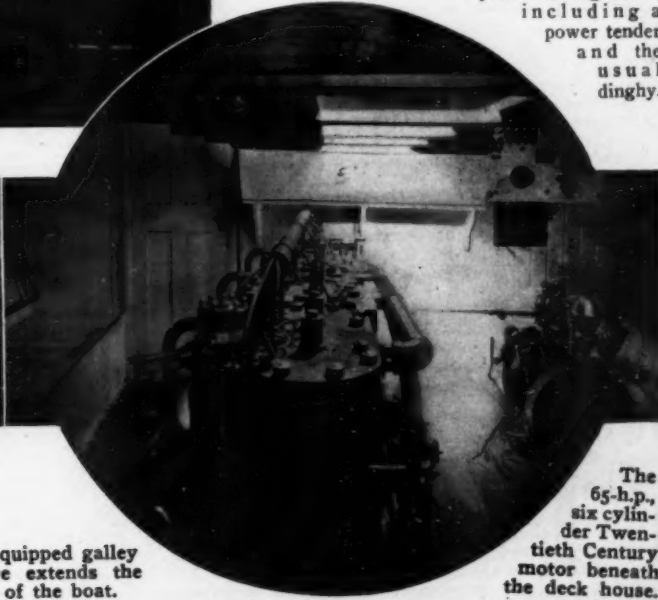
Below decks the forecabin with toilet and laboratory accommodations for the crew, is of course forward, followed by the engine room in which is installed the 65 h.p. six-cylinder  $6\frac{1}{2}'' \times 8\frac{1}{2}''$  Twentieth Century motor. To port of the main engine is installed a direct connected generating set with switch board and the engine room is also equipped with work bench, lockers, transom, etc.

The galley is situated between the engine room and the living quarters and extends the full width of the boat. The living quarters are divided into a main saloon amidships with buffet and extension transoms along either side. It is entered directly from the companionway on the cabin roof. The passage leads aft to the owner's stateroom and on either side of the passage are a smaller stateroom with fully equipped bath room. The principal dimensions are 65 feet overall, 13 feet-beam and 3 ft. 6 in. draft.

Chipper II will be used in, the vicinity of Philadelphia and Newport during the coming season. She will be fully equipped with complete cruising outfit, including a power tender and the usual dinghy.



An auxiliary steering wheel is installed in the deck house.



The well equipped galley shown above extends the full width of the boat.

The 65-h.p., six cylinder Twentieth Century motor beneath the deck house.



# Reversing Propellers.

A Means of Obtaining Reverse Motion of the Boat, Control and Any Speed from Full Ahead to Zero

a Variable Pitch, Reliable or Full Speed Astern.

By Chas. F. Chapman.

**L**AST month we considered one class of reversing devices for motor boats—the clutch and reverse gear, describing in detail the most characteristic makes on the market. This month we take up an entirely different principle for effecting the reverse motion of the boat, namely the reversing propeller. With the clutch and reverse gear we saw that the direction of rotation of the propeller was changed when it was desired to drive the boat astern. With the reversing wheel, however, the direction of rotation is always kept the same but the angle or pitch of the blades themselves is changed. For the forward motion of the boat the after sides of the blades is the working surface, but by changing the angle of the blades relative to the plane of rotation it will be seen that the forward surface will become the working one and reverse motion of the boat will result.

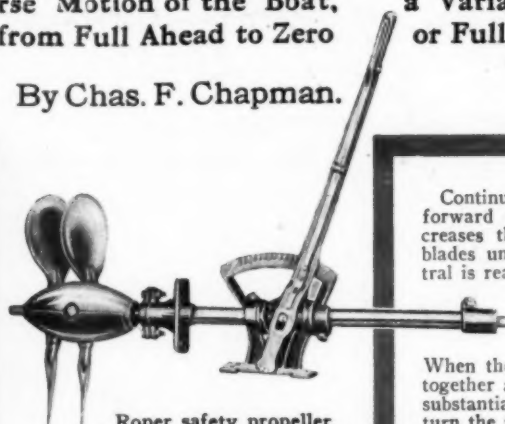
In order to change the angle of the blades they are made to work in a hub and turn about an axis at right angles to the propeller shaft.

A well designed reversing propeller outfit has the advantage of being light in weight and simple. As the pitch is variable, oftentimes it is possible to get the exact pitch that each particular boat and engine demands for the highest efficiency, as good speed at least is possible as with other types of wheels and the control is very flexible. Any speed, from full speed ahead to zero and full speed astern is possible by the manipulation of a lever.

## Roper.

The Roper Safety Propeller, manufactured by C. F. Roper & Company, of Hopedale, Mass., is considerably different in principle from the ordinary type of reversing wheel and has several points of advantage in its design. The propeller proper consists of an H-shaped spider, a two-piece hub and four blades. The blades are designed on the lines of a perfect screw and are provided with arms having lugs which work in cam slots in the hub. The hub has a limited motion parallel with the shaft and this motion is changed into the circular motion of the blade by the action of the same slots on the blade arms, giving any desired pitch to the blades from zero to maximum.

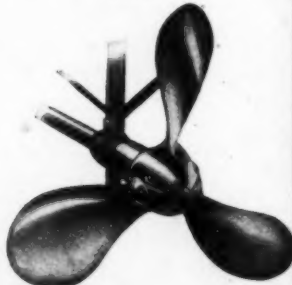
The principle of the Roper Safety Propeller is that when the controlling lever is full forward or full reverse, the pitch of both pair of blades is the same. As the lever is moved from full forward the forward pair of blades turn on their bearings towards neutral, the back pair remaining at full forward, and keeping the load on the engine. When the front pair have reached a predetermined angle, the back pair begin to turn toward neutral and the front pair begin to oppose the forward thrust of the back pair and the boat speed is slightly reduced.



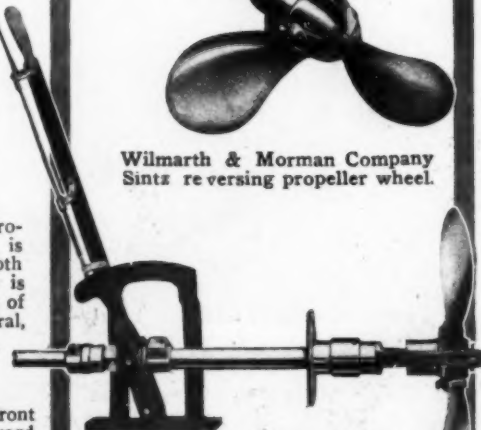
Roper safety propeller using two two-blade wheels.



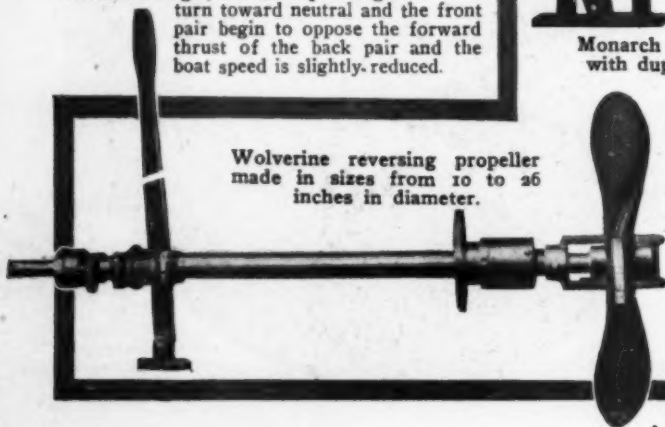
Leighton wheel for work and racing boats.



Wilmarth & Morman Company Sintz reversing propeller wheel.



Monarch reversing propeller with duplicate blades.



Wolverine reversing propeller made in sizes from 10 to 26 inches in diameter.



Famous Michigan reversible wheels built with two and three blades.

Continual motion of the lever reduces the forward thrust of the back blades and increases the backward thrust of the forward blades until they balance when the real neutral is reached. The boat is then at rest with full load on the engine. Further, the backward thrust overbalances the forward and the boat begins to travel in a backward direction.

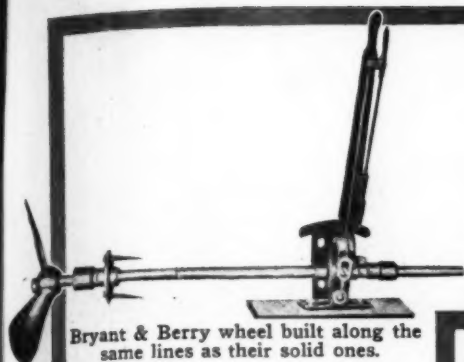
When the lever is full aft, all the blades act together again. At any position of the blades substantially the same power is required to turn the propeller at the same number of revolutions. The Roper Propeller is made of the best materials by first class workmen and is strong, durable and carefully designed for the work it has to do.

## Sintz.

The Wilmarth & Morman Company, of Grand Rapids, Mich., having over 20 years' experience in the manufacture of the various types of reversing propeller wheels, is thoroughly acquainted with the defects which have existed in these devices in the past and have placed on the market this year a reversing propeller which will eliminate all of these faults. Their reversing propeller has but three working parts, namely the hub, shell and blades and the hub is guaranteed against breakage through the blades, striking any obstruction. The blades are fitted independently of each other so that in case one blade is broken, it is a very simple matter to replace that one without need of purchasing a complete new wheel or even a full set of blades. The wheel is practically weedless, as there are no projections to catch weeds.

The Wilmarth & Morman reversing wheels are especially adapted to speed boats because of the fact that they take up very little room and add very little weight to the boat. The maximum pitch of the wheel can be adjusted so as to obtain a correct ratio of diameter and pitch for each particular boat. The heavy duty outfits are especially adapted to working boats because of the fact that the pitch can be so adjusted as to give maximum speed when the boat is running light and maximum pulling power when towing. These wheels are made from the small 8-inch two blade outfit for a motor canoe up to a 6-foot three blade outfit suitable for heavy duty work boats.

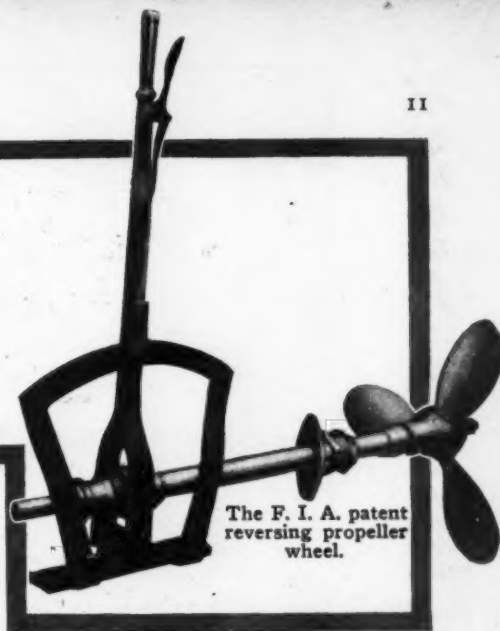
Some of the points of merit claimed by the manufacturers of these wheels are that there are no obstructions to catch weeds or drift, the entrance being pear shaped, insure solid water to the blades, the conical cape on the shell eliminates all suction, the drive from the shaft is distributed over the entire diameter of the hub and the blades cannot bind or stick in a hub and interfere with reversing. All thrust on the collars, outer sleeve and reverse lever is eliminated whether in forward or backward lead, and a uniform pitch to the blades can be continuously maintained. The



Bryant & Berry wheel built along the same lines as their solid ones.



Michigan two blade reversible wheel having only two parts besides the blades.



The F. I. A. patent reversing propeller wheel.

wheel is balanced and every part of the hub and mechanism is stronger than the propeller shaft. The blades are the only part of the wheel which can be injured from striking an obstruction and these blades cost little to replace. The quadrant is supplied with numerous notches so that the wheel can be held at any desired pitch when in operation.

#### Monarch.

The Grand Rapids Gas Engine & Yacht Company, builders of the celebrated Monarch marine engines, are manufacturing also a reversible propeller which they are prepared to furnish with any of their motor outfits or for use with other motors upon order. The Monarch reversing blade propeller has an efficient screw lead easily shifted to any desired pitch. The blades are duplicates and are quickly removed and replaced if injured, through striking any obstruction. There is no thrust friction on the lever shifting collar on forward pitch, thus transmitting the full engine efficiency to the propeller without lever friction loss. On full forward pitch the lever shifting collar rests against an adjustable collar clamped to the propeller shaft. The Monarch reversing propellers are made in 17 sizes, from 14 inches in diameter to 24 inches, with various diameters of shaft varying from three-quarters of an inch to 1 7-16th inch and outside sleeves of 1 1-16th inch to 1 3/4 inches. All outfits are of the two blade type and are fitted with either steel or tin bronze shafts suitable for fresh or salt water installations.

#### Bryant and Berry.

Bryant & Berry Company, of Detroit, Mich., who have been so successful with their solid propeller wheels and owing to such numerous requests for a speed propeller of the reversible type, have decided to furnish it and are now manufacturing B & B reversible wheels in the two and three blade type, right and left hand. The material used is the same as that employed in the solid wheels and are constructed in the hub in a most ingenious manner so as to be practically weedless. These outfits are made in the lightest possible manner to insure strength and safety, all parts are highly polished; the hub is smooth, no bolts or projecting parts, all joints are closely fitted and thus prevent sand from getting inside. The wheels are perfectly balanced and many cases are on record where the speed of a boat has been materially increased by the use of the Bryant and Berry wheel.

#### Michigan.

The Michigan Wheel Company, of Grand Rapids, Mich., are manufacturing two and three blade reversible propeller wheels with detachable blades, designed and built on the same lines as their solid speed propeller wheels and having the same form and appearance in forward pitch. The blades are set in the center of the hub on the center-line of the shaft, perfectly balanced and easy to operate. The pitch lines radiate from the center of the hub to the periphery. The blades have a bearing over the full diameter of the hub, which is larger than the area of the shaft. The brass sleeves rotate with the shaft and is moved longitudinally by the reverse lever. This sleeve operates the blades and yoke. The water is kept from entering the boat by an outside combination stern bearing and stuffing box and also by an inside stuffing box. Weeds, sand, etc., will not interfere with the reversing of

this wheel and it is impossible to injure the hub or yoke so that either will refuse to reverse by striking any obstruction. The reverse lever and latch are made of heavy malleable iron, the quadrant and fulcrum of cast iron and the stern bearing, outer and inner stuffing boxes, thrust and clamp collars are of bronze. The outer tubing or sleeve is of brass with stern bearing babbeted. The two bladed Michigan improved reversible propeller wheel with detachable blades is made in 15 different sizes, both right and left hand. Diameters are from 10 inches to 28 inches and full pitch forward from 14 to 39.2 inches. The diameter of the shaft varies from 5-8 to 1 1-2 inches. The average horsepower required at 400 r.p.m. is 3-4 to 24. The three bladed Michigan reversible propeller is made in 10 sizes, 12 to 28 inches in diameter, 16.8 to 39.2 inches pitch. Diameter of shafts required is from 3/4 to 1 1/2 and these are suitable for powers from 3 to 40 h.p.

#### The F. I. A.

The F. I. A. Reversing Wheel Company, of Syracuse, N. Y., are manufacturing the F. I. A. patent reversing propeller wheel and universal adjustable wheels, in addition to their line of solid speed and working wheels. The F. I. A. reversing propeller gives the operator absolute control of the boat to run either ahead or astern at varying speeds without attention to the motor, to hold the boat at a standstill, or to make landings with ease and safety. This is all done by one movement of the lever. In its operation the lever moves the outer brass tube or sleeve and the thrust terminates in a triangular or wedge shape piece of phosphor bronze. This wedge shaped piece is so constructed to receive the ends of the propeller blades. The principle is one of torsion without wear or stress on the working parts. By moving the lever the blades are turned and at the same time they are tipped ahead or astern. They can be made to take any pitch or position instantly. There is no lost motion, friction or slipping and the wheel can be set to suit the power of the engine and speed desired, ahead or astern.

The F. I. A. propeller is extremely simple. There are no complicated parts to cause trouble or get out of order. The blades are the same shape in forward pitch as the solid wheel and are equally efficient. Their pitch changes with each position ahead or astern so that the greatest possible efficiency is always obtained, and all parts are interchangeable. The reverse lever is made of steel, the quadrant of cast iron and the stuffing boxes, thrust and clamp collars are of bronze, the outer sleeve or tube and hub are of brass.

The blades are of the most approved height, made of best quality bronze and nicely finished. Should they become bent, they are easily taken from the hub and can be straightened cold. F. I. A. propellers can be installed in any boat where reverse equipment can be used. The control levers are so designed that they can be placed in any part of the boat most convenient to the operator. The outfit is light, clean, takes up a small amount of room, makes little noise, throws no grease and is not expensive. It will stop the boat in a very short space of time and allow one to maneuver into difficult channels and make landings quickly.

In addition to the reversible propeller the F. I. A. Reversible Wheel Company are manufacturing a patent adjustable propeller in which the blades may be adjusted to any desired pitch by loosening the lock nuts on the end of the shaft and turning the sleeve which turns the blades, but keeps the pitch uniform. The propeller can be set at any pitch that is most suited to the power of the engine and the size of the boat. In case a blade is broken it is easily replaced without delay and without the expense of buying a complete new wheel.

#### Leighton.

H. J. Leighton, of Syracuse, N. Y., builder of marine gasoline motors, is manufacturing reversible propeller wheels of both the solid shaft and the hollow shaft styles. The Leighton wheels are efficient, absolutely reliable and easily operated on both working and racing boats. For a given horsepower their weight is very light and there is no noise or objectionable features. Perfect control of the boat is obtained and a slight variation in the pitch of the blades, controlled by the reverse lever, the motor can be made to operate at its most efficient speed. The blades are accurately machined with reference to pitch and interchangeability and are so carefully fitted to the hubs that the latter will retain for an entire season the lubricant with which they are filled. In order to change blades in the hub it is only necessary to remove three heavy bronze screws. The working side of the reversing collar is fitted with a ball bearing and the reverse lever and quadrant are polished bronze.

A Leighton reversing wheel has recently been fitted to one of the steel ferryboats operating on the St. Lawrence River, between Ogdensburg, N. Y., and Prescott, Ont. Two wheels, 40 inches in diameter, 50 inches pitch with a shaft of 3 1/2 inches are used, one at each end of the boat, fitted with hydraulic mechanism for reversing and adjusting pitch. These wheels get particularly hard service in ice during the winter and they have operated the boat through 8 inches of solid ice. One man controls both motor and wheels.

An assortment of blades of various diameter and pitches are carried in stock and special blades are made to order to meet any special requirement.

Among the many boats equipped with these wheels are three winners of the American Power Boat Association Gold Challenge Cup, raced for annually on the Thousand Islands' course. Chip III, which has a record of 30 miles in 58 minutes 19 seconds, was also equipped with a Leighton wheel.

#### Wolverine.

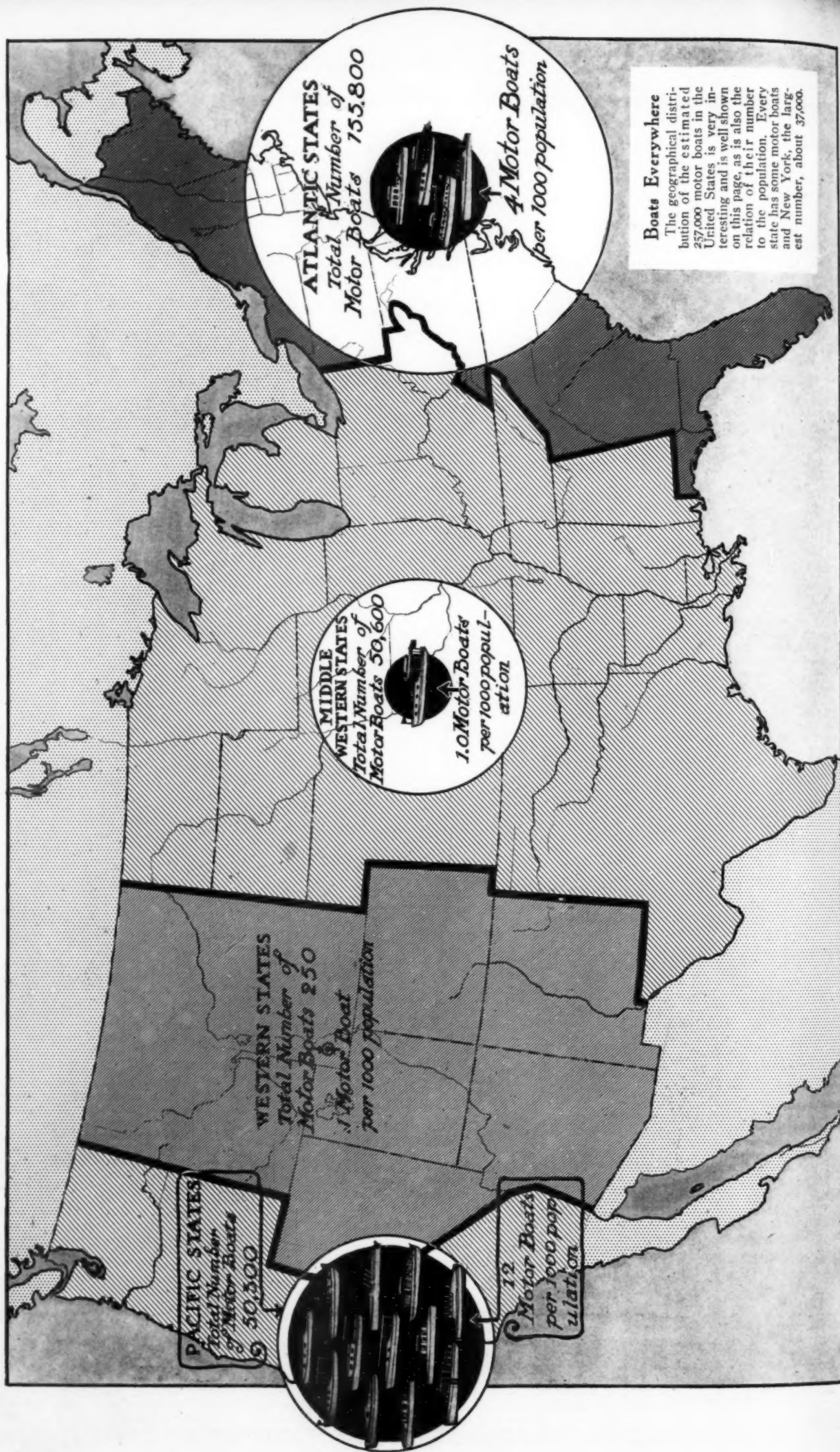
The Wolverine Motor Works, of Bridgeport, Conn., are manufacturing the Wolverine reversing propeller wheel in sizes from 10 to 26 inches in diameter, all of the two-blade type. This wheel is made of the best quality bronze throughout and is accurately fitted together. The fork and hub are finished to gauge, and all parts are interchangeable, the blades being independent of each other and the loss of one by striking an obstruction does not necessitate the renewal of both. The blades have the same shape in forward pitch as the solid wheel and are very efficient.

With this wheel the operator has perfect control over his boat which can be run at any speed up to maximum and can be stopped within its own length when running at full speed ahead. There is no lost motion in this wheel, nothing to get out of order and no possibility of hub fouling with weeds or sand or of injuring the hub by striking any obstruction so that it will refuse to operate. When used on auxiliary boats, the blades can be placed in a perpendicular position behind the stern post, thereby reducing the friction on the water to a minimum when under sail. The wheel, stern bearing, stuffing box, outer shaft tube and collars are of bronze and the stern bearing is babbeted inside.

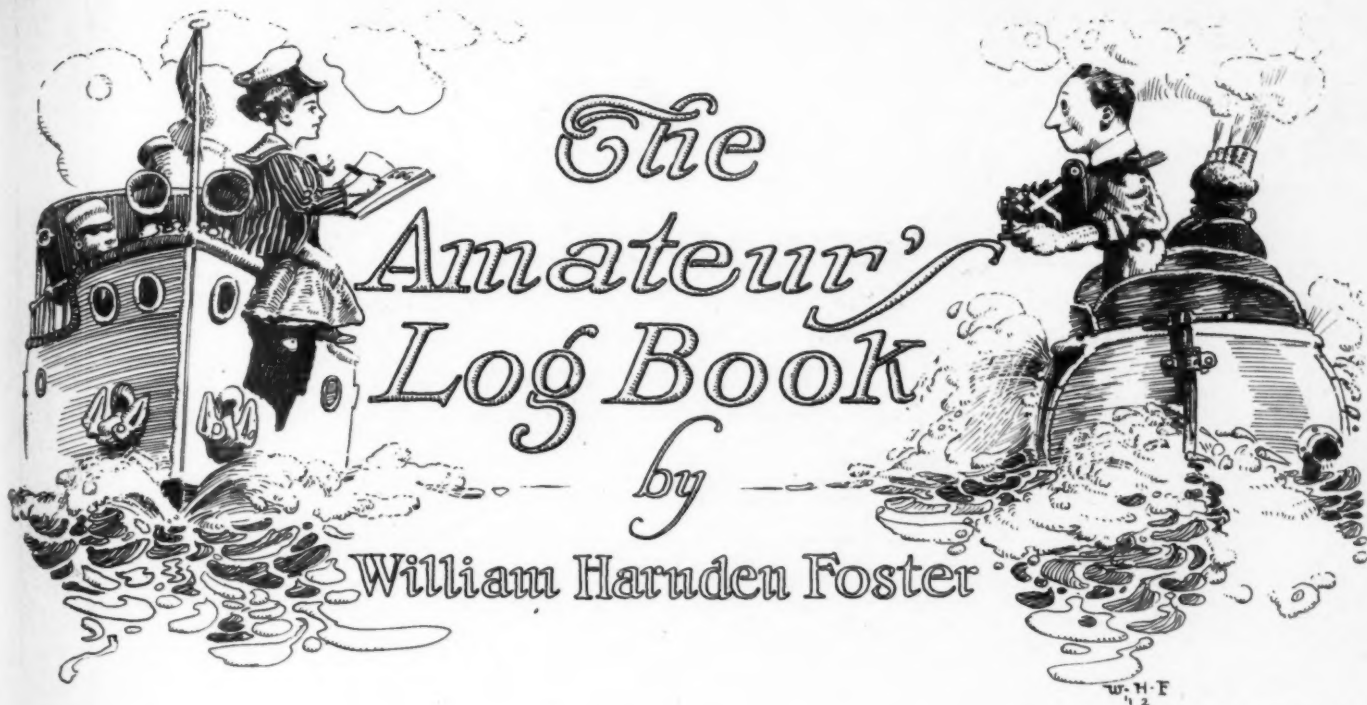


# Distribution of Motor Boats in the United States.

Which Lead—The Atlantic or the Pacific States?







WHERE can a motor boat enthusiast find more interesting reading than in the well-worn, tar-scented pages of a ship's log-book? Take, for instance the records brought home by those dauntless New England captains of a hundred years ago, in the days when Salem ships were seen in every port on the globe, and our merchant-marine led the world. Carefully and painfully inscribed on these musty pages one can read chapters that might well have been misplaced from "Robinson Crusoe," or "Treasure Island." There are grim stories of shipwreck and long wanderings in the interiors of strange lands; there are matter-of-fact accounts of engagements with Tripolitan pirates; there are touching records of the home-comings, laden with East Indian cargoes, after years of storm-tossed absence.

And how happens it that when one reads these records he can hear the singing of the wind through the rigging and almost taste the salt on his lips? Is it because these old searovers of a century ago possessed literary ability? No; but because they wrote of facts—facts that were freshly and vividly stamped on their minds.

And now to the point of this article. Most of our boats are still in winter quarters, although some are already in commission for another season afloat. But when it comes right down to hard pine planking, what have you to show for the season of 1912? yes, and for many, many previous ones? "Pleasant memories," you answer, and you are right; they are pleasant memories. But do you ever stop to realize that every day draws these memories a little farther back into the distance of memory? There are certain events that stand out in such clear detail that they might have happened yesterday. These you will never forget, but the general run of events is growing gradually dim.

"Say, do you remember that foggy night you ran from Point Judith up Buzzard's Bay and how you picked up Hen and Chickens lightship dead ahead? That was sure some calculation—tide running, too. How long did it take?"

"Don't just remember—wish I did. Might take the run again some time and compare notes."

"Do you remember next day seeing that string of battleships? Wasn't that some sight? How

many were there now?"

"Can't quite think."

"Wasn't that cove behind the little wooded island in Casco Bay the quietest, safest little anchorage you ever saw? Do you remember how you went ashore and had a clam bake under the fir balsams? Say, what wouldn't you give for a picture of that little cove, with your boat in under the shore and casting a perfect reflection on the water?"

The one way to preserve the memory of these events, so dear to a motor boat enthusiast, is to put them down in black and white. Before your motor boating season of 1913 opens, begin a log-book. It doesn't have to be confined to any particular form. You are the boss—suit yourself. Get a book and write things down as they happen. Start with the early days of spring—the day you uncover your boat, and scrape a little on her. Write down what kind of paint you used and how much it took. It may be useful information later on. Make a note of what had to be done to the engine and how to do it.

You don't have to be literary any more than the old Salem skippers were. You are going to write facts, too. Never fear, they will be interesting all right.

The book itself may be almost anything. It is advisable to choose one that is of a convenient size to carry on the boat and one that will stand plenty of wear. The best thing

you could possibly obtain is a well bound book with linen pages. By using waterproof India ink, such a book will withstand dampness and hard usage.

Make a rack for your log-book in some convenient place, with pen and ink handy.

You may prefer to make the book a more elaborate affair—a sort of parlor table volume. If so, maintain one less elaborate on shipboard and then copy from it at the end of each cruise.

Next of importance to making the actual entries in the log-book itself, is to take photographs to illustrate it. Get the camera habit. At the present time the so-called kodak and supplies have reached such a stage of perfection, that any man who can start a gasoline engine or steer a course, will find little trouble in taking satisfactory snapshots. Buy a camera and don't be afraid to use it. For how many of us have started off on a trip with fine intentions and plenty of films, day after day neglecting to use them! "Will get that on the way back," we say. But "the way back" on the sea is exceedingly crooked and some times dark. How often, oh, how often, did we come back with the films still packed! Let me repeat. Don't wait for pictures that will make the artistic world sit up and take notice. The simpler things, a bell-buoy, a ledge, or a gull, will find a welcome place along with your text. Don't bother about composition or poses. The art of amateur photography comes in getting interesting pictures. These are usually the ones obtained in some random shot when your subjects least expect it.

If you finish your own pictures, take unusual care with the ones you wish to put in your book. Remember that your log-book is going to become a family treasure to be handed down to generations to come. A faded or discolored print must, under no circumstances, mar its pages.

A person who enjoys pen-and-ink sketching can make an unusually interesting log-book by varying his photographs with a few sketches—perhaps something a little humorous, or of subjects that he was unable to photograph. Like the photographs, such sketches need have no artistic merit. Let them simply express an interesting idea, and you will find that their merit proves itself as time goes on.

Now, before the opening of



With the aid of the log book and a little imagination the cruises may be lived over again during the off season.

the season, get your book and your camera ready to begin volume number one. Don't miss a day's entry when you are aboard. Make it as formal or informal as you choose, but be sure you make it something. Then next winter as you sit around the fire and think over your past season, even as you are

doing now, you may glance through your log-book. Every picture and every line will bring back freshly and vividly the happenings of former days. You can enjoy many a delightful cruise while the snow blows outside. Then your log-book will be a source of pleasure and pride to you, and something that you will

prize as the years go by.

Then, too, there is always the possibility of writing up the log afterward as a story for one of the magazines. By no means all of such articles are done by experienced writers and if your cruise is an interesting one, there are others who would be glad to read of it.

## The Permanent Mooring.

Suggestions for the Choice of the Anchor, Cable and Buoy with Best Methods of Arranging, Laying Out and Picking Up.

By H. W. Loweree.

ON A Sunday afternoon did you ever sit with the rocking chair fleet on the clubhouse piazza, with the wind blowing fifteen or twenty knots, and watch the home-coming yachts pick up their moorings? Note the wind-jammers who usually make it the first time: then the auxiliaries with their sails furled chugging in under power: then the cabin cruisers and high-sided fellows who miss it more times than all the others put together. Most of the latter helmsmen did not learn the game with a sail boat, for their usually come down the wind, shut off or reverse their engine, or go by so fast that the man with the hook misses the buoy and the line often gets wound up in the propeller wheel. Sometimes they come up beam to and through in the clutch, with the result that the bow is blown off to leeward so far that the longest boat-hook could not possibly reach the buoy.

There is considerable windage on a high-sided motor boat and the proper way to make the mooring is to round up into the eye of the wind, several boat lengths away, and slow down, and you can often pick it up better by throwing the clutch on neutral instead of reversing. Reversing throws the bow away from the straight line, owing to the change of torque at the propeller.

The old saying that "The best insurance is a good ground tackle," has been modified somewhat for the insurance companies are now alive to the fact that there is profit in underwriting the smaller craft. However, the old saying is a good one, after all, and with more care on the part of the yachtsman and a lower loss ratio for the companies, there is a probability of a lower premium cost for the owner.

As to the weight and type of moorings, this varies largely with the size of the boat, location and the quality of the bottom. It is always best to be on the heavy side rather than too light.

The bulb shank mushroom is excellent for holding. To this shackle a good chain, suitable in size to the weight of the anchor, and

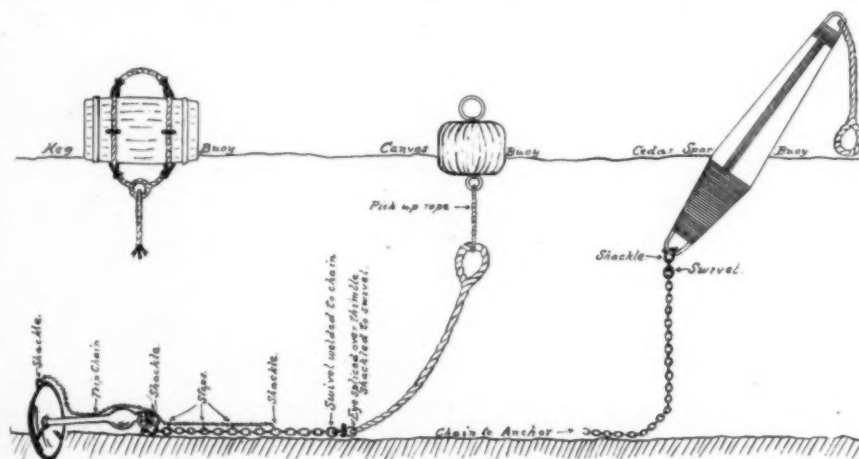
of a length not less than six times the depth at high water and ten times is better in exposed places. To the upper end, put in a swivel which should be one-eighth or one-quarter of an inch heavier than the chain itself, for this is the place where most of the wear will come, and then splice in a heavy piece of manila rope, not less than seven-eighths of an inch in diameter, with an eye splice to throw over the bitts. Sew heavy canvas or rawhide on the part that passes through the chock to prevent chafing.

move the mooring, it will only be necessary to overhaul the main chain until you come to the upper end of the lighter chain. A light strain on this will break the marlin seizings and give you a direct pull on the disk edgewise, and it will then require only a comparatively small lifting power to break it out.

To lay out a heavy mooring, two flat-bottom rowboats with a couple of timbers lashed across them to the thwarts, will carry or raise a mooring up to half a ton. Lash the mooring to the timbers between the two rowboats,

and when you get over your previously marked spot, cut the lashing, being sure to have the chain clear for a quick run.

Raising the mooring is more of a job, and my advice is to leave it down, as it will last longer under water than on the beach. Take a cross bearing, from the shore, with prominent stationary objects, so that the apex of an acute angle is the point at which your mooring lies. When you haul out for the Winter, stretch out the chain, and, after having put a weight on the rope end of your outfit, drop to the bottom. In the



Several practical buoys and a method of arranging the mushroom anchor and cable.

Just below the eye, splice in a short pennant of lighter line, about six feet long, and attach a buoy that will float the entire season at least. Cork buoys soon become water-logged and set so low in the water that they are hard to find. Metal ones scratch the sides of the boat, get punctured and sink. Wooden kegs, with galvanized iron rod run through with eyes on each end, are good, but the best of all is the cedar spar buoy that stands up; can be seen at a distance; is handy to pick up, and is not likely, when you are away, to be cut off by other power boats. These buoys are made on the principal of the government spar buoys, and, if kept well painted, will last for years.

Before dropping your mooring in place, it is a good plan to have a light chain fastened in the eye on the disk and stopped up along the main chain with marlin to within reaching distance at low water. This will greatly facilitate matters for, in case you might wish to

Spring you can easily pick up your mooring again by dragging over your range with a grapnel iron being sure to fasten on a trip-line with a float, so in case you hook the chain near the anchor, or get fast on the bottom, you will not lose your grapnel. The chain usually sinks in the mud and you will probably have little trouble in hooking the rope. Splice on a new piece of rope and you are ready for the season. Another method that I have successfully used was to run a line to a neighboring mooring, let this drop to the bottom, and, then, when dragging over the range in the Spring, you will kill two birds with one stone.

Below is given a table of the weights and strength of various sizes of rope and chain and the sizes of mushroom to use with them for boats of several lengths in both protected and exposed anchorages. These may be safely relied on, but for special conditions or when in doubt, make the tackle too heavy rather than too light.

ROPE			CHAIN				FOR BOATS			
Size Diameter	Number of feet per lb.	Breaking strain-lbs.	Size Dia.	Weight per foot in lbs.	Proof Test Tons.	Breaking Strain-Tons.	Mushroom Weight-lbs.	Shackles & Swivels	In Sheltered Harbors	In Exposed Waters
3/4"	6	3970	3/4"	.91	1 1/2	1 1/2	50	3/8"	18-20'	14-16'
7/8"	5	4900	7/8"	1.5	2	4	100	7/8"	20-25'	16-20'
1"	3-6"	7050	1"	2.5	4	6 1/2	165	1"	25-30'	20-25'
1 1/4"	2-4	9600	1 1/4"	4.1	6	11	200	1 1/4"	30-35'	25-30'
1 1/2"	2-1	11020	1 1/2"	5.8	8	14 1/2	265	1 1/2"	35-40'	30-35'
1 3/4"	1-8	14150	1 3/4"	7.7	10	18 1/2	300	1 3/4"	40-50'	35-40'
2"	1-5	15870	2"	10.	13	22	400	2"	50-75'	40-50'

Burden Handmade 25% Stronger.  
Safe Working Load & Breaking Strain.

A tabular guide for the choice of a safe mooring equipment for various sizes of boats, in both sheltered and exposed waters.



# THE PRIZE CONTEST - IN QUESTIONS AND ANSWERS

## Putting the Boat Into Commission.

Schedules to Be Followed When Doing the Work, Time Required and Materials Necessary for the Medium Sized Craft.

THE PRIZE CONTEST—Answers to the First Question in the March Issue.

### Good General Advice.

(Prize won. Supplies from C. D. Durkee & Co.)

IN FITTING out, first thoroughly air the boat and let the sun get in as much as possible. Examine the paint on the hull, if a number of coats have been applied and it is peeling off in spots the only way to make a job of it is to burn off all the old paint (or use a paint remover), and get right down to the wood. A torch may be had with the scraper attached which is most handy for this work. An excellent remover which takes hold of either paint or varnish is a mixture of acetone and benzol.

The first coat of paint over bare wood should consist of white lead with just enough turpentine to break up the lead and well thinned with raw linseed oil and a dash of japan dryers. Three light coats is much better than two heavier ones, the finishing coat may be a good grade of yacht white or add one gill of varnish to one quart of paint mixed as above. A little prussian blue added to white paint prevents it from turning yellow. More oil makes a hard glossy surface while more turpentine makes a flat white, but if too much turpentine is added the paint will rub off like whitewash.

If the bright work is badly weathered it will have to be scraped or removed as with the paint. If scrapers are used, flat cabinet scrapers are best. Sharpen with a bevel edge like a chisel and slightly turn the edge by rubbing with a round piece of steel. A handle may be obtained for these scrapers which makes the work much easier. If the oak is weathered it can be bleached to natural color by applying a saturated solution of oxalic acid and washing off with common vinegar, rub down with fine sandpaper and apply two coats of best grade spar varnish. This work must be varnished before rain or dew gets on it, or the work will have to be done over again, for if wet the tannic acid will come out of the oak and turn it black.

The hull below the water line should next be examined. If any seams are open try them with a putty knife and if soft, lightly calk with spun cotton. Putty all the seams, but do not use the common variety, there are excellent seam compositions on the market, if not obtainable a mixture of white lead and whiting to the consistency of putty makes a good material for this work. It is advisable to run a little thin paint into the seams before applying this composition.

For the bottom a number of good anti-fouling paints can be purchased. I have found that 8 oz. of powdered copper mixed with one qt. of varnish makes a hard smooth surface and will last an entire season in salt water without marine growth of any kind. Two coats will be sufficient and the second year

Now come the decks for which I advise special deck paint which is more lasting, but if varnished rub down well with fine sandpaper size O (carborundum paper is the best), and apply two coats of best grade spar varnish.

The stuffing box should be looked over and if any trouble existed last season, take out the old packing and replace with square braided flax which comes prepared for this purpose. Cut two or more rings to fit the shaft and be careful not to set up too tight.

The power plant and interior may be overhauled on damp days or after the boat is afloat as it is advisable to get the boat in the water as soon as possible after the bottom is complete to prevent further drying out.

If the engine is in need of paint give it a coat of special heat resisting enamel which may be obtained from any dealer, first thoroughly cleaning off all dirt and grease with kerosene or gasoline and then rubbing over with fine sandpaper. It is better to have done this job in the fall when the boat was hauled

out, as paint is the best protection for metal during the winter.

Put in a new set of batteries and go over the wiring, rubbing off all connections with fine emery cloth. Look over the spark plugs and with gasoline in the tank you are ready for a try out.

The time required to put a boat in commission depends upon the condition of the boat and the necessary work to be done and very largely on the experience of the man who does the job. At a yard where mechanics do the work and have everything handy, two men would put a 30 foot cruiser in commission in four or five days of good weather. The amateur who does his own fitting out and has only Saturday and Sunday to do the work should begin as early in the spring as the weather permits as he will be handicapped by a rainy or damp Sunday, unless the boat is under cover and it is a waste of time and material to paint or varnish on damp days.

The following material should be sufficient to put the ordinary 30 foot power cruiser in commission, costing approximately \$18.00.

25 lbs. white lead	.....\$2.00
1 gal. raw linseed oil	......65
1/2 gal. turpentine	......30
1 qt. japan dryers	......25
1 qt. yacht white	.....1.25
1 qt. special deck paint	......55
1 gal. spar varnish	.....4.25
1 lb. powdered copper	.....1.00
1 lb. whiting	......04
1 small can engine enamel	......30
5 lbs. seam composition	.....1.00
1 lb. oxalic acid	......18
1 lb. calking cotton (fine)	......18
1 calking or making iron	......40
1 putty knife, 1 1/4 in.	......30
1 scraping knife, 3 in.	......30
2 cabinet scrapers	......20
1 doz. sheets sandpaper, size O	......10
(Carborundum is best, cost 45c per doz.)	
2 flat 3 in. paint brushes	.....1.50
1 flat 1 in. paint brush	......25
1 flat 1/2 in. paint brush	......15
1 flat 2 in. rubber-set varnish brush	......45
1 set dry batteries (waterproof)	.....1.50
2 qts. varnish remover	.....1.20
Total	.....\$18.20

Proposed schedule for putting a 30-foot motor boat in commission.

First Day:	
Weather clear	{ Air thoroughly and let the sun get in. Remove paint from top sides, using torch or paint remover.
Second Day:	
Weather clear	{ Sandpaper top sides and give the scratch coat, use little turpentine and plenty of oil, calk and putty seams below W. L.
Second Day:	
Weather rainy	{ Take under cover the spars, flag poles, oars and anything movable to be varnished, scrape and sandpaper them.
Third Day:	
Weather clear	{ Scrape or remove varnish from rails and other bright work, sandpaper and varnish together with other small articles.
Third Day:	
Weather rainy	{ Clean all grease from engine with gasoline, rub all wire connections with emery, do any woodwork necessary in cabin.

### Questions for the July Contest.

1. Explain a method of handicapping boats in a club regatta which will not be too complicated, but still allow every contestant a fair chance to win.

Suggested by F. E. H., Toledo, Ohio.

2. What is the proper equipment, supplies, etc., to be carried on a small boat bound on a two weeks' cruise, and how may these best be carried?

Suggested by B. B., Miami, Fla.

3. Explain and illustrate the construction of an engine bed, method of fastening it to the boat and the method of fastening motor.

Suggested by F. E. Benson, Oak Park, Ill.

### Rules for the Contest.

Answers to these questions, addressed to the Editor of MoToR Boating, 381 Fourth Ave., New York, must be: (a) in our hands on or before May 24, (b) about 500 words long, (c) written on one side of paper only, (d) accompanied by the senders' names and addresses. (The name will be withheld and initials or a pseudonym used if this is desired.) Questions for the next contest should reach us on or before the 24th of May.

The prizes are: for each of the best answers to the questions above, any article advertised in MoToR Boating, of which the advertised price does not exceed \$25, or a credit of \$25 on any article advertised in MoToR Boating, which sells for more than that amount.

(There are three prizes, one for each question, and a contestant need send in an answer to but one if he does not care to answer all.)

For each of the questions selected for use in the next contest, any article advertised in MoToR Boating, of which the advertised price does not exceed \$5, or a credit of \$5 on any article advertised in MoToR Boating, which sells for more than that amount.

For non-prize-winning answers published we will pay space rates.

When you send, in your answers, state what you will take if you win a prize.

# The Prize Contest

Fourth Day: Weather clear	Lightly sandpaper bright work, paint decks, give second coat.
Fourth Day: Weather rainy	Get dink under cover and prepare for paint or varnish. Examine stuffing box, steering gear, reverse gear and bolts in engine bed. Paint engine with heat resisting enamel. Put final coat on top sides, using special yacht paint. Finish up the dink.
Fifth Day: Weather clear	Thoroughly clean the cabin, scrub the paint and floors. Clean out bilges under floors, get in a hose stream if possible.
Fifth Day: Weather rainy	Paint the under body, using copper bronze for salt water. Do all the small jobs that have been left to the last.
Sixth Day: Weather clear	We hope not, but if you have no rainy day jobs, help the other fellow, you may need his help in launching or other heavy job.
Sixth Day: Weather rainy	Get the boat in the water and finish the interior and other left over jobs at the mooring and try her out.
Seventh Day: Weather rain or shine	

H. W. LOWEER, New York City.

## Data from Actual Work.

THERE are stored in a boat yard at Huntington, L. I., 68 motor boats of various types. In length they range from 12 to 65 feet. The aggregate length of these craft is 2072 feet so that the average length of the yard full is 30.4 feet; the average width by the same process is 8.2 feet; the draft 2'-2", the freeboard 3'-11". The motors of all of these craft total 1056 h.p. One boat has 16 cylinders in its power plant and ten of the fleet can boast of but one, 29 of the motors being 4 cycle, 38 two cycle and one a steam engine. A total of 156 cylinders which allows each boat 2.3 cylinders, developing 17 h.p. So a medium sized boat tabulated from these 68 representative craft is of the following dimensions:

L. O. V.	30'-6"
Width	8'-3"
Draft	2'-10"
Freeboard	3'-11"
H.P.	17

Whatever work there is to be done toward putting the power plant into perfect order should be done first, for it is a messy job at best. The bearings of the motor should be looked after and if worn must be refitted. Clean out carbon from cylinders and from pistons, and if a four-cycle motor, grind in the valves; see that all springs are resilient and that there is a proper clearance between valve stems and valve lifts, that all gaskets in manifolds and packing in water connections are perfect. The reversing mechanism will require a thorough cleaning and perhaps an overhauling. Look for weak places in the gasoline connections and tank, the only source of danger on a motor boat. If necessary, install a new tank with its fittings. Don't take any chances with gasoline. On completion of the motor refitting attend to faulty plumbing. Carefully inspect the steering gear and then begin on the outside work.

Begin with the upper work. Scrape and varnish hatches, skylights, mouldings, standing top, spars, etc., first. Scrape, sandpaper, and varnish or paint cockpit, then expend your efforts toward brightening up the decks, next the topsides, sandpapering them thoroughly after dressing down, paying and puttying the seams if they require it. Use flat yacht white or colors for topsides. It's cheapest and best.

The bottom should be reserved for the finishing touches. View with suspicion the stuffing box and water inlets and outlets. They've a great habit of leaking. Dress down all seams, and treat similar to those on top sides and apply two coats of anti-fouling paint.

The materials required for replacements on

a 30-foot cruiser which has had reasonable care through a five months' season afloat are approximately as follows:

MATERIALS FOR WORK ON BOAT.	
18 sheets garnet paper	\$3.36
1 gal. flat white	4.00
1 gal. red lead	2.40
1 gal. bronze bottom paint	1.30
2 lbs. putty, white lead, etc.	3.00
1 gal. gasoline	.30
3 1-in. No. 12 brass screws	.10
1 gal. varnish remover	.03
1 can Dutch Cleanser	2.60
1 lb. galv. nails	.10
1 lb. galv. nails	.04

Total cost materials for boat \$14.22

Time for work on boat, 102½ hrs.; approximately, 11½ days.

MATERIALS FOR WORK ON MOTOR.	
2 sheets emery cloth	\$1.10
1 pt. engine paint	.15
6 cotter pins	.05
5 oz. Mobilene packing	.30
5 inches 1-inch brass pipe	.10
1 1½-inch pet-cock	.30
1 ¼ x 4 carriage	.05
1 lb. waste	.16
3 set screws, 7-16 x 1, ¾ x 1½, ¾ x ¾	.22
5 batteries	1.25
4 battery connectors	.04
1½ lbs. grease	.30

Total cost material for motor \$3.02

Time for work on motor, 75 hrs.; approximately, 8½ days.

Total materials \$17.24  
Total time 177½ hrs. 19½ days

These are exact costs and time of a 30 x 8' 6-day cruiser, overhauled this spring.

WILLIAM ATKIN, Huntington, L. I.

## A Comprehensive Schedule.

IN DEALING with this subject, I will assume the boat when hauled out to have had the care it deserves. The bilge will be clean, the motor, toilet, stove, electric apparatus and all stores on shore where they have had a thorough overhauling and made ready for immediate use. Careful observation at this time (hauling out), will have shown many little things requiring our attention at the fitting out season, and notes made that nothing will be overlooked, and needless trips required to procure supplies. Let us make a list or scheme of procedure something like the following:

1. Hull: (a) interior, (b) exterior. The interior into (I) bilge, (II) top sides. The exterior into (I) deck, (II) hull.

2. Fixtures: (a) toilet, (b) steering gear, (c) gasoline system, (d) electric outfit, (e) motor, (f) galley, (g) bilge pump or patent syphon, (h) power whistle.

3. Rods and stores, such as lines, anchors, lights, life preservers, compass, etc.

After removing the winter housing, brush away all dust and debris before opening the boat, and note any additional damage calling for attention and make notes in the scheme under the proper heading. Then pass into the interior. Make a careful inspection of the bilge. Be sure the timbers, planking and all hidden woodwork is in good condition. If not make repairs at once and clean and finish according to your ideas, i. e.—paint, wood preservatives or ventilation. Examine and replace all gaskets necessary around the outboard connection valves of motor and toilet. (Wood preservatives may destroy rubber, so be careful.) This done, note condition of lockers, etc., and repair any damage, tighten screws, locks, etc. Dry the interior thoroughly preparatory to painting and varnishing, using the best obtainable interior finishes, which are cheaper in the end. You will be more than

pleased if beaded, curved or other fancy mouldings are absent.

While the first coat is drying the toilet and wash basin may be set and securely fastened. Finish it and check it off the list as should be done with each thing, then nothing will be overlooked. The toilet may be followed by cables, wheel, fair leaders, shipping the rudder, after setting the shaft and propeller and close attention to the steering gear, i. e., attaching quadrant or tiller. Pack the gland if it has one. Oil the pulley bearings carefully, test, and check off. Now give closest scrutiny to the gasoline system. See that all joints are tight. A small quantity of ether under about 5 lbs. pressure will show where the leak is to be found if the gauge shows the system to be faulty. Set all joints in shellac. Indeed this substance is of untold value on a boat. Clear the filter and a gallon or two of gasoline may be poured into the tanks to test the tightness of valve seats. There must be no leaking.

The propeller, fastened to the shaft on a taper seat with nut and key has been set and its stuffing box—always inboard—packed. We are ready for the exterior. Having made all necessary repairs, calked seams or restored canvas, set the hardware, they may be necessary, and finish using only the best material whether in payed seams, varnish or painted canvas. Replace the moldings and finish the topsides. Since a priming coat was put on in the fall, one or two coats at this time will finish it beautifully. Now finish the bottom.

I purposely proceed in this manner, and wait two full days at least before putting over so that paint will set nicely, in the meantime, putting several inches of clean water in the bilge. This may save a lot of trouble and prevent sinking. Once afloat and secure, I examine all wiring, testing each circuit on the board by means of a storage cell which is always ready since makers' directions are followed exactly. But a set of dry cells may be used for this purpose. This done, I set the motor, lining up while afloat. I maintain this to be the only logical procedure on a small craft, to avoid friction in the bearings. I also believe the motor and clutch mounted immovably on angle iron to be the safest plan for the amateur.

This brings us to the bilge pump. The fairways are free, since the bilge is clean, but a length of jack chain through the openings will serve to clear them if moved from time to time. Provide a screen well at the lowest level into which the pump is inserted. Any chips or foreign matter overlooked will thus be kept from the pump and not choke it. It is always well to have a hand pump in case of emergency.

The galley needs but little attention, since most of its appliances are movable. The water tank and piping will be well treated, if a liberal supply of strong soda solution is sent through the system, washing all into the sink finally with fresh water. The ice box may need some attention, if it is fixed. Be sure no rot is occurring around the more hidden parts. The power whistle may now be connected up, and tried by running the motor for a short spell, and observing the gauge. If it holds, the system is ready for business.

We come finally to the group 3. Have everything connected with this lot of the best and be repaid in comfort and safety.

As to cost. This naturally varies with the kind of material used. I may safely say a \$10 bill will cover all paint and varnish expense and give good results on a 22-footer, using it liberally inside and out. Exactly the cost I cannot state since I kept no record. I used an excellent grade of material for all work and was amply repaid for the slight additional expense and the trouble of taking a little pains by seeing my boat last through the season without further attention.



# Fitting the Garboard Plank.

The Proper Method to Follow in Its Bending and for Obtaining the Correct Bevel for the Rabbet.

THE PRIZE CONTEST—Answers to the Second Question in the March Issue.

## Understand the Plans Before Starting.

(Prize Won—Paragon Reverse Gear.)

THE job of cutting the rabbet in the keel and fitting the garboards is one requiring care and accuracy, and if not properly cut will cause no end of trouble. The inner edge of the seam formed by the garboard and the keel is the part that should be tight. If the seam is V-shaped a little with the widest part of the V on the outside, it is considered a good calking seam; while, if these conditions are reversed the seam cannot be calked tight and will leak. On the other hand, if an excessive bevel is given to the seam the calking iron is apt to pry off the plank when calking.

If the lines of the plan are understood the rabbet can be cut with very little trouble while the keel is on the floor, but as a great many amateurs do not understand them, the following method may be employed.

Prepare a piece of pine about a foot long by  $\frac{1}{2}$ " wide and the same thickness as the proposed planking, and bevel one end of it, making the bevel about one-eighth of an inch to a thickness of one inch, as shown at "A." This is called a template. Be sure to mark the outside of the template with a round-headed tack or some such mark, so it may be easily distinguished, which is the outside and which side is to be used for the fitting.

Now set up the keel and moulds in their proper places, and by cutting out at each mould so that the rabbet line is flush with the outer end of the template, as shown at "A," you have several spots to guide you, and you can then draw a pencil line to cut to by tacking a batten so that it runs fair from spot to spot. The moulds can now be taken down and the rabbet cut out to the lines made. If in doubt, it is safer to cut the rabbet a little less than the full depth, for you can slice off a shaving or two when the frames are fitted in, if not deep enough.

To find the shape of the garboards, get two spiling boards about three-eighths of an inch

thick, six or eight inches wide, the length to equal the length of the boat. Cut these so that their ends fit roughly in the rabbet forward and aft. Tack the forward one fairly close up to the rabbet and bend along the frames close to the keel, being careful not to spring the board edgewise up or down. Then tack the after length in aft, in the same manner, and when it laps the forward one, saw them through here, cleat and fasten them firmly together.

Now set a pair of dividers so that the legs span the greatest opening between the edge of the rabbet and spiling board, and at intervals of six inches draw pencil marks so they are square to the rabbet, and on these lines prick off the spacing set on the dividers.

Stick the point of the dividers in the spiling board and put a small circle with a pencil around the mark so it may be easily seen, as shown at "B" and "C." With a row of these marks all along the parallel to the edge of the rabbet and the pencil marks to guide the direction which the distance the dividers are set apart is to be set back it is merely a case of accuracy in getting out a perfect fitting garboard.

Draw the nails that hold the spiling board to the frames and lay the spiling board out

## A Practical Plan.

BEFORE fitting the garboard strake, see that the rabbet is properly cut and is of the right depth, so that when the plank is in place the outside will just come to the rabbet line. Then you will need a spile board or "spiling staff" as it is often called. This can be from 4 to 6 inches wide and as long as the longest plank you intend to put on and about  $\frac{1}{4}$ " thick. It should be of some soft wood, preferably white pine.

Cut the forward end of this spile board so it will roughly fit the rabbet and clamp or tack on the frames, close to the keel and in the same position you wish to have the garboard strake. Care should be taken to have the spile board lie flat on the frames and not to spring it edgewise.

Now set a pair of dividers so they will reach from the rabbet line, well onto the spile board. Place one leg of the dividers on the rabbet line and strike a small arc on the spile board. Continue this at intervals, making them closer near the stem where there is more curve. Near the forward end draw a line across spile board and stem so the garboard plank can be located in the same fore and aft position as the spile board was in. Or a line may be drawn even with some frame for the same purpose.

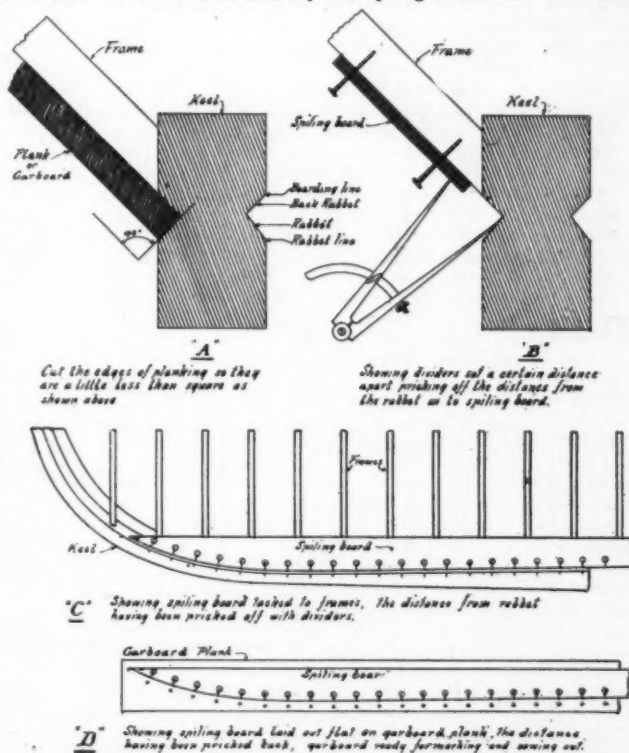
Opposite each frame make numbers on the spile board and also on the keel. These are used to locate the bevels. Remove the spile board and place it on the plank to be used, tacking it in two or three places to hold it in position. Now, with the dividers spaced same as before, strike two small arcs on the plank, using the arc on the spile board for centers. Where these lines intersect is the edge of garboard. Continue this for the length of plank, and draw

a line through these points and this will be the edge of garboard that will fit the rabbet. The idea is simply to locate points on the spile board parallel with the rabbet and then to transfer the same distance from points on spile board to the plank and draw a line through these points which will fit the rabbet. Before removing spile board, draw the line on the plank for locating fore and aft position and mark the numbers on the plank opposite those on spile board for locating bevels.

To get the line for outer edge of garboard, tack a narrow batten on the frames just where you wish the edge of plank to

be, and take the width from this to rabbet about every two or three feet and transfer to garboard plank. With a rip-saw cut the plank out to these lines, being careful to saw so as to leave all the lines on the plank. With a bevel square take the bevels at each frame or opposite the numbers and transfer to a small board, as shown in sketch, numbering each.

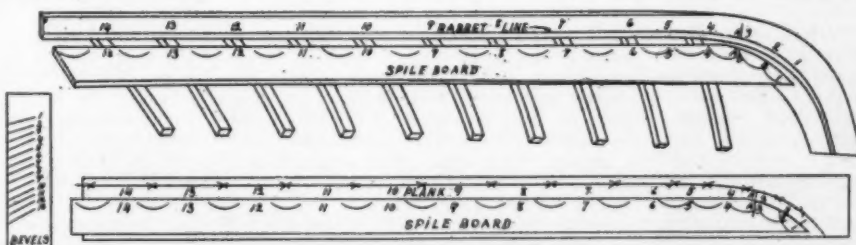
The next step is to place the plank with the edge up in a vise or clamped to some upright.



Mr. Clitheroe's method of obtaining the angle and shape of the garboard strake.

flat on the plank the garboard is to be cut from, and with the dividers still set, prick back the same distances, which will leave a row of prick marks to bend a thin batten along, and pencil in the line to saw to, as shown at "D."

Do not saw close up to this line, but saw



Spiling board designed by C. H. C.

the garboard out to within one-eighth of an inch of the line which will give some leeway for fitting.

Now clamp the garboard in place and see how it fits. If it is a quick twisting bend as most are, steam it and clamp it on hot, letting it cool in that position, and when cold and set, slack up on the clamps and fit the garboard at any places where it can be improved.

JOHN CLITHEROE, Attleboro, Mass.

# The Prize Contest

Then with a draw-knife cut a small spot to the proper bevel opposite each number and draw a line across edge of board to locate exact place. The bevel square to be set from the bevels on the board opposite the corresponding number. In cutting these bevels, make them so the seam will be slightly open on the outside for calking. Now, with the draw-knife, cut away some of the wood between these spots that are beveled and then finished with a plane.

If care is taken in doing all the work and the wood is cut exactly to the lines, the plank will need very little fitting. Before putting the plank on, pour some boiling water on the forward part where there is much twist. Put the forward end in rabbet and clamp in position, then follow back towards stern with more clamps, twisting the plank into place. When well under the boat, shores can be used to advantage.

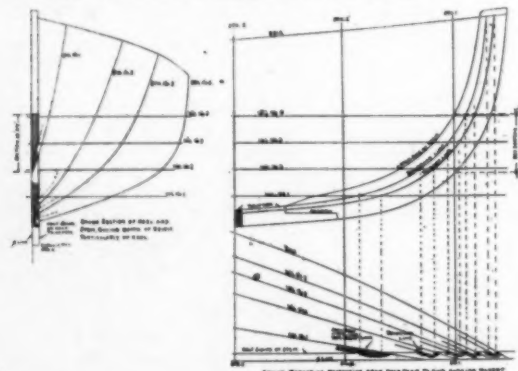
In locating the fore and aft position of the plank by the lines provided on plank and keel, place the plank slightly aft of where the lines indicate as it can easily be driven forward after it is twisted and clamped in place.

The forward end should be fastened with screws, for if nails are used, a slight tap with the hammer will sometimes cause the plank to split.

C. H. CHRISTIE, Saginaw, Mich.

## Working from the Deck Plans.

THERE are several methods of obtaining the bevel for the rabbet in the stem and keel; these bevels determine the proper bevel of the garboard plank. The most used, probably, is the old rule of thumb method of frequent cutting and fitting; that is, after the keel and stem are erected, by cutting the rabbet until a batten the thickness of the plank-



Mr. Davis recommends working from the plans of the boat to obtain the angles and dimensions.

ing will "lay right." The rabbet is cut deep enough and at such a bevel as to keep the beveled edge of the garboard plank at nearly right angles to its surface; in other words, a shim edge is to be avoided, since it is difficult to fasten without splitting and is very liable to open up later.

A better and more accurate method is to get the bevel and depth of the rabbet in the stem and keel from the lines of the boat as laid down full size. A very simple way to do this is to lay off on the deck plan at the bow the half siding or half thickness of the stem; also do this on the section plan. Cut a small piece of board about a foot long, two inches wide and the thickness of the planking, being careful to have the ends square. Where the water lines intersect the line of the half thickness, lay this small piece on its edge, and mark around it, as shown on the drawing. This will give the "bearding line" (diminishing line of the long bevel), the depth of the rabbet and its bevel. To lay this off on the

stem itself, one must project these points to the profile plan as shown. It is then a simple matter to make a template of the stem showing these lines and transfer them to it, preferably before erecting same, for the rabbet can be cut much more easily while the stem is on the floor or benches.

To get the bevel of the rabbet on the keel, use the small piece of board as before, this time on the section plan. Be careful again to have its end come at the intersection of the half thickness of the stem and the line of the outside of the plank. Most boats have their lines drawn to outside of plank, and the thickness of the plank afterward deducted on the full sized lines from which the moulds are made.

After the rabbet is cut in the stem and keel, these set up and the boat is in frame, the shape of the garboard plank can be gotten as follows: Procure a thin batten about one-quarter of an inch thick, five or six inches wide and ten or twelve feet long; a pair of dividers or a small block about 2" x 3" having its edges beveled and a screw in its center by which to hold it. The block will give a more accurate result than the dividers, which are liable to shift, while the breadth of the block is always constant. Pare away one end of the batten until it roughly fits the rabbet in the stem. With a few small screw clamps fasten it securely to the frames, being very careful to let it rest where it will. Do not attempt to bend it edgewise. In this seemingly unimportant point is the secret of the

directly from the stem or keel and applied to the plank, being very careful not to get them on backward.

After the plank is ready and faired up it is then put in a steam box, or wrapped with cloth or old bags and hot water poured over it. As the plank must be put on with no cracks or split in it, great care must be used to get it hot enough. By means of much coaxing, plenty of screw clamps and blocks, and some patience there is no reason why anyone cannot make a good job of the whole operation.

C. D. DAVIS, Marblehead, Mass.

## Taking the Spiling.

THE garboard plank is the hardest plank, outside of the "shutter," to fit, but it is very imperative to make a good job of this for there is a great deal of strain along the seam where the garboard fits into the rabbet and if a bad fit is made, leaks will sooner or later occur.

The most common method of fitting the garboard plank is to take a "spiling." Suppose the boat is all in frame and ready to plank. Get a thin, smooth board about 1/4" thick; any kind of lumber will do, but it should be pliable. This plank should be a little wider than the garboard is to be and full length; or two lengths can be spliced.

This article refers principally to the fitting of the forward end as this is the most difficult part of the work; for a compromise stern boat the after end of the plank, if it extends to the stern post, will be fitted in a similar manner to the bow end. Cut the end of this spiling plank to roughly fit as in Fig. A; screw or

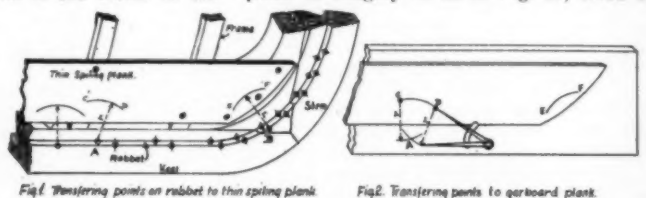


Fig. 1. Transferring points on rabbet to thin spiling plank.

Fig. 2. Transferring points to garboard plank.

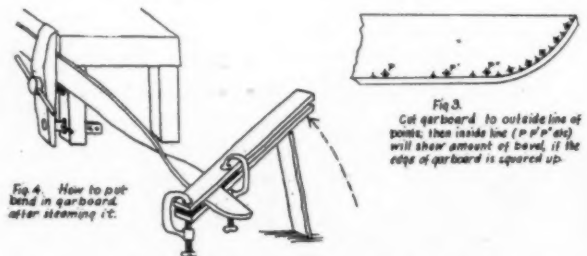


Fig. 3. How to put bend in garboard after steaming it.

Fig. 4. Cut garboard to outside line of points, then inside line (or if not) will show amount of bevel, if the edge of garboard is squared up.

Bending and fitting the garboard strake by the method suggested by Mr. Parker.

whole operation. Then with the block or dividers go along at frequent intervals (very frequent at stem), and spot off equal distances (the breadth of the block or setting of dividers), from the outside of the rabbet, having previously drawn lines on the batten where it crosses the frames. The intersection of these lines with the arcs of the circles or breadth of the block will give a series of points or "spots." It is best to have the batten lie as close to the keel as possible. This operation described above is called "taking the spiling."

Lay this batten on the garboard plank to be and secure it with clamps or a few small nails. The points are transferred to the plank in the same manner they were taken from the boat, using the block or dividers. Run a thin batten through these points to get a fair line, and after laying off the width of the garboard (which is arbitrary, usually about 6" to 8" at the butt), it can then be sawn out ready for the bevels. The bevels can now be "lifted"

tack it into place leaving about one inch between lower edge and the rabbet in keel and stem. The board being thin, will require no steaming, but do not bend it up or down by using a bevel gauge. The garboard should now fit the rabbet accurately, but it must, in the majority of cases, be steam bent into place. For small boats the forward end of the plank can be steamed and then clamped and bent over in a vise as in Fig. 4. Bend the end around as nearly to a right angle as possible for it will spring back a good deal when cold. Leave until cold, when a permanent bend will be found in the plank and it can be fitted without much trouble.

If plenty of screw clamps are handy and two or three people on hand to help (which is an unusual occurrence), the plank can be steamed and quickly transferred to the boat and clamped into place against the ribs. This work must be done very quickly though, or the plank will get cold and will not bend, or will split. H. H. PARKER, Oakland, Cal.



# Supplying Fuel to the Carburetor.

Methods of Installing the Tanks When the Gravity System is Not Feasible.

THE PRIZE CONTEST—Answers to the Third Question in the March Issue.

## The Pressure System.

(Prize Won—Credit with Brooks Mfg. Co.)  
IN CASES where the gravity system of fuel supply is not found feasible, namely those where the gasoline tank is carried below the level of the carburetor, the simplest method of obtaining "feed" is undoubtedly utilizing the pressure of the exhaust gases. The slight back pressure produced in the exhaust manifold is communicated to an exhaust pressure regulating valve by means of a  $\frac{3}{8}$ " diameter copper tube.

The function of this reducing valve is to so regulate and maintain the required pressure as to cause the fuel to flow constantly and steadily to the carburetor. The valve inlet is connected by a  $\frac{1}{4}$ " diameter copper tube to a small hand pump which is needed to supply air pressure when starting the motor after it has been idle for a considerable length of time. A short tube should be run from the pump tube to a small pressure gauge which shows the tension upon the gasoline in the tank at all times. This should register ordinarily from 1 to 3 pounds per square inch.

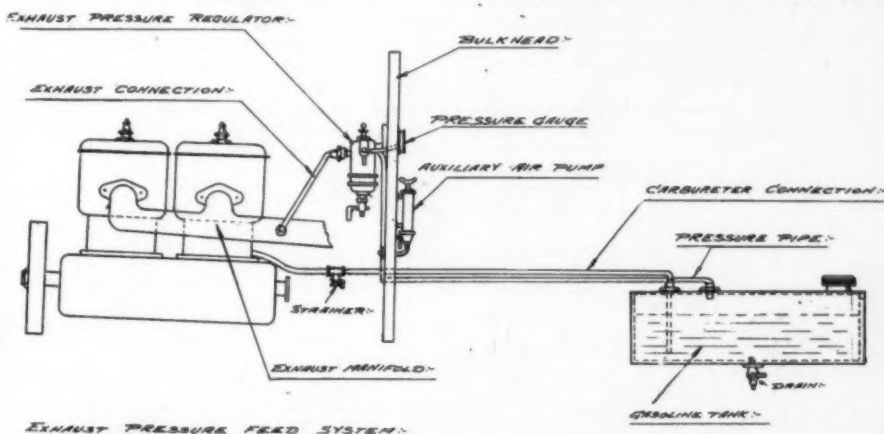
The valve outlet is also connected by means of  $\frac{1}{4}$ " diameter copper tube to the gasoline tank which should be made air tight and somewhat heavier than the ordinary to withstand the pressures contained therein. A  $\frac{5}{16}$ " diameter copper tube runs down into the gasoline tank within 1" of the bottom and extends direct to the carburetor. At some point between the tank and carburetor this pipe should be fitted with an efficient strainer to remove foreign matter such as small particles of carbon, dirt and sediment blown through with the gases; one provided with a pet cock is of advantage as it allows for draining off the water which accumulates in the pipes.

The accompanying sketch illustrates how the necessary fittings for an exhaust pressure system might be fitted to the bulkhead of any motor boat, adding to its appearance and being readily accessible.

C. E. BRADLEY, Fall River, Mass.

The drawings herewith illustrate a system in which the gasoline or any other liquid fuel is supplied from two or more main tanks, through a small rotary pump to an auxiliary tank, and from there by gravity to the carburetor. The pump is so mounted that the flow of gasoline from the main tanks to same is by gravity and is connected with gears or cogs between the pump and propeller shaft.

Between the pump intake and the main



Mr. Bradley recommends a pressure system with an auxiliary air pump.

tanks a check valve is placed. From the discharge outlet of the pump a pipe is connected to a small auxiliary tank, which is so placed that the flow of the fuel to the carburetor is by gravity. The size of the auxiliary tank may be as large or as small as may be practical. If no other place can be provided for the auxiliary tank one of small capacity may be mounted directly over the engine. From the upper end of the auxiliary tank an overflow pipe is connected, extending to the main tank. The overflow pipe will be necessary, as the pump will deliver the fuel in excess

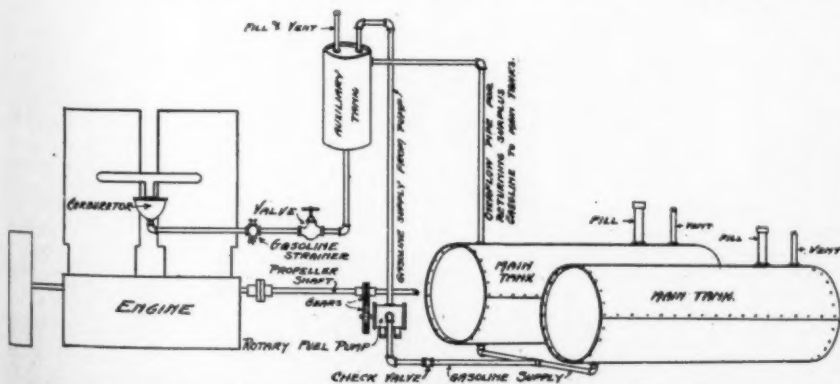
## Several Feed Methods.

OWING to the lay-out of cabin and deck space some motor craft are obliged to carry their fuel supply in tanks so low down in the hull that adequate gravity flow to the carburetor is not possible. We sometimes find tanks installed beneath the floor of the self-bailing cockpit or under the cabin transoms, placed thus to utilize space not

otherwise valuable. Ocean racers, too, sometimes carry part of their fuel very low, since sufficient space could not otherwise be secured for their excessive fuel tankage. In all such cases the gasoline must be lifted to the carburetor by artificial means.

Sometimes in the larger craft a small pump is used and this, taking its power from some moving part of the motor, forces the fuel into an auxiliary feed tank of small capacity and elevated sufficiently to secure the required head. Again, the entire tank system is kept under pressure by means of an "exhaust pressure regulator," utilizing a minute portion of the spent gas from the motor's own exhaust for its operation. Such a system of pressure feed is probably the simplest and most reliable yet devised and therefore for marine purposes it is the best. Sufficient pressure may also be kept upon the tank by means of a small hand air pump similar to the ordinary bicycle tire pump which may be piped to the tank, and a few strokes now and then will supply the very moderate amount of pressure required to do the work. In small craft this will answer every purpose. The pump may be secured to a bulkhead near the wheel, where it can be conveniently reached at any time by the helmsman. A simple ball check is often installed in the fuel pipe between tank and carburetor to prevent back flow from the float chamber when the tank pressure is low. Of course the penalty of allowing the pressure to fall too low is the stopping of the motor. Therefore, for craft of any considerable size the exhaust pressure device is to be preferred since it is automatic in its action and operates as long as the motor is running. The hand pump, however, is even then necessary as an emergency device and for use in starting, and must be installed in any case, whether using the exhaust pressure regulator or not.

The tanks and piping in a pressure system must be air tight, no vent being possible as in the gravity system, since the pressure would cause an overflow through any opening. Should it be desired to install more than one tank and at times cut out one or more of them,



Mr. Horenburger employs a pump driven by the motor and a small auxiliary tank.

## An Automatic System.

IN supplying fuel or gasoline from one or more main tanks to the carburetor when the gravity system is not practical, there are, of course, various devices to resort to. Pressure systems will instantly come to one's mind. Of the different pressure systems the air pressure will be found, in some cases, to be troublesome and unreliable, because all intakes, valves and so forth will have to withstand the air pressure. Therefore I will describe a system in which the gasoline supply is furnished by means of a pump.

of what the engine will consume, and to prevent any unnatural pressure in the auxiliary tank, the overflow pipe is provided, through which all the surplus fuel will automatically return to the main tanks. From the outlet at the bottom of the auxiliary tank it is now only necessary to connect to the carburetor, with a strainer and valve in this line, and the entire system is complete.

The system as described will be found reliable and practical owing to the entire operation of supplying the fuel being automatically performed.

F. HORENBURGER, New York.

# The Prize Contest

## The Auxiliary Tank and Power Pump.

IN THE system described below no pressure is used either in main or auxiliary tanks, thus reducing the danger of leaks. Also there is no pressure on the carburetor, the feed being by gravity from auxiliary tank. The auxiliary tank can be very small if a power pump is used and the main tanks need have no bottom openings.

It is not a good plan to force the fuel by air pressure or otherwise directly to carburetor, for the ordinary carburetors are not made to stand much pressure and may either flood the engine or leak. This system is entirely automatic if a fuel pump can be obtained and attached to the engine or propeller shaft. This could be either a plunger or rotary pump, but should be made especially for pumping gasoline or whatever is used for fuel. It should

case almost a necessity, and if possible it should be located near the bulkhead or where it can be easily read. There would be no danger of getting the tank too full for it would simply overflow into the main tank as when the power pump was used.

H. H. PARKER, Oakland, Cal.

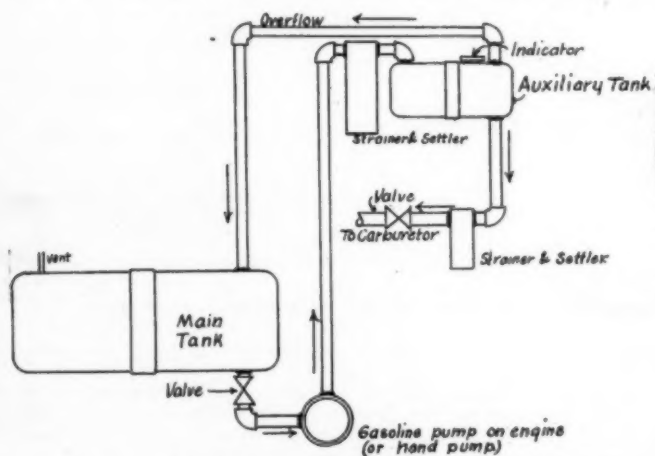
## Utilizing Exhaust Pressure.

THE selection of the best method of supplying gasoline to the carburetor when the gravity system is not feasible is rather a difficult problem. There are several good practical systems in use, all having their advantages and disadvantages. These systems

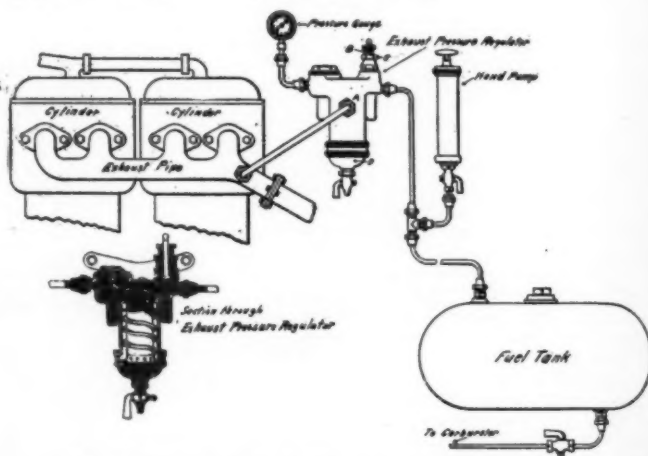
pump. The inlet of this regulator is connected directly to the exhaust, the outlet being connected to the top of the gasoline tank, while the fuel is led directly from the bottom of the tank to the carburetor.

With the system described above, a small hand pump with suitable piping must be used. This affords a means for supplying pressure to the fuel for starting up and for assisting the regular pressure system in case more pressure is needed.

A combination system consists of a main gasoline tank, to which pressure is supplied by any of the methods described above. The gasoline is forced from this tank to an auxiliary tank, from which the gasoline is fed by gravity to the carburetor. A float valve placed in the auxiliary tank automatically regulates the supply of gasoline to it. The advantage of this system is that it does not require a hand pump for starting up.



Mr. Parker's fuel line with main and auxiliary tanks, pump, strainer and gasoline indicator.



Mr. Krewson uses an exhaust pressure regulator with the pressure taken from the exhaust pipe.

be ascertained just how much fuel per hour the engine uses and the pump should be of such a size as to supply a little in excess of this amount.

The diagram will show the piping arrangement; the piping, of course, is not drawn to scale, but merely shows the scheme. The gasoline is drawn from the main tank or tanks to the pump and then to the auxiliary tank, which should be at least a foot and a half above carburetor. When the auxiliary tank is full it will overflow into the main tank and will require no attention and will always be full; when the engine stops, the overflow stops, but the tank is left full for starting again. The valve at carburetor should be shut off when stopping the engine. A couple of strainers and water separators are shown, the larger the better. It would be well to have an indicator on the auxiliary tank to show the amount of fuel in it, especially if a hand pump is used as described later. Be sure and put no valves on the overflow line, for if the overflow was shut off the pressure would break something.

There must be an air vent in the main tank. The outlet pipe in main tank could enter at the top and extend down nearly to the bottom of the tank; if this is done the main tank need have no openings whatever in the bottom. If more than one main fuel tank is used they should be arranged with a tee connection with a shut-off valve at each tank, so that either or both can be used or either or both shut off.

For a small boat, or where the power fuel pump cannot be used, a hand pump for the fuel can be used, but in this case the auxiliary tank should have sufficient capacity for at least two hours running, otherwise the tank must be continually pumped full.

An indicator for the auxiliary tank is in this

may be divided into two general classes: those using a pressure-feed, and those using a combination of the gravity and pressure feed. The selection of either of these classes and any particular system in that class is merely a matter of personal choice.

One pressure-feed system for use upon a two-cycle engine consists of: First, a small check valve connected to the crank case; second, a line of tubing connecting this valve with the top of the gasoline tank, and third, another line of pipe leading the fuel from the bottom of the tank directly to the carburetor. This system has the disadvantage of creating a pressure over the fuel nearly equal to that in the crank case, whereas for ordinary purposes a pressure of one or two pounds is ample, the pressure depending upon the depth of the tank below the carburetor. Another disadvantage is that of allowing lubricating oil to be carried from the crank case to the gasoline tank. However, the first objection may be overcome by placing a regulating spring in back of the check, and the second is not very serious, as most two-cycle engines are now oiled entirely through the gasoline.

Another system relies upon a small air pump to pump air to the gasoline tank, in order to force it to the carburetor. This pump is generally driven directly from the cam shaft, but there are several in use, having the cylinder of the pump screwed directly to the housing of the engine, and having the plunger fastened to one of the valve stem rods. This system not only requires a check valve between the pump and the tank, but it also requires a small relief valve to keep the pressure from becoming excessive.

Still another system uses what is known as an exhaust pressure regulator in place of the

Another combination system depends upon an ordinary suction pump to pump the fuel from one or more main tanks to a gravity tank. A pipe running from the gravity tank back to the main tanks takes care of the overflow. This pump works continuously and keeps up a constant circulation from the main tanks to the gravity tank, always maintaining a constant head on the carburetor. As this system does not have any of the disadvantages of the pressure system, it would be ideal if it were not for the fact that the fuel pipes must, on account of the pumps, be brought near the engine, causing danger of fire.

The exhaust regulator system, which has been chosen for a description in detail in this article, has been chosen not because it is necessarily the best system, but because, first, it is the one generally used; and, second, it is very easy to install, and when once installed it is absolutely foolproof and requires very little attention. There are no moving parts to be kept lubricated and all that is required is a little cleaning now and then. Of course there is slight danger of getting water in the gasoline from the exhaust, and of valves carbonizing, and of springs losing their temper, but, by judicious care and frequent inspection, no trouble whatever need be encountered.

The general layout for this system is shown by the accompanying sketch, there being several good makes of regulators upon the market. Part of the exhaust gas passes from the exhaust chamber through a tube, entering the regulator at A; it then passes around a spiral passage and thence through a number of small holes into a strainer chamber, thence through a fine gauze strainer, past a check valve into a passage which has two outlets.

ROBT. H. KREWSON, Philadelphia, Pa.



# The Polar Diesel.

The Motor that Drove Captain Amundsen's Fram to the Antarctic on His Successful Journey to the Pole. A Brief Description of It's Operation.

By J. Rendell Wilson.

**A**LTHOUGH about fifty great engineering firms are now engaged with the construction of engines of the Diesel-type, it must not be thought that all Diesels are alike in design; in fact, the variety of designs is remarkable, but, of course, the system of combustion by heat generated by high compression applies to all classes. The term "Polar" was given to this engine by the makers, the Aktiebolaget Diesels Motorer, of Stockholm, some years ago, and, curiously enough, four vessels fitted with Polar-Diesel engines have lately been engaged in service in the Polar regions, the most notable of these being Amundsen's "Fram."

The illustration is of the largest and most recent engine built by this Swedish concern, under K. J. E. Hesselman's patents. Apparently, there are six cylinders, but, in reality, only the after four are used for power developing, and are termed working-cylinders, the forward two forming scavenging pumps, air-compressors, and maneuvering-cylinders. The working-cylinders have a bore of 360 mm. (14 ins.) by 530 mm. (21 ins.) stroke, and 400 h.p. is developed at 205 revs. per minute on the two-stroke, single-acting, principle, and the engine is direct reversible. The weight of the engine, compressors, and pumps complete, is 30 tons, or 168 lbs. per h.p., while the fuel consumption is 200 grams (7 ounces) per h.p. per hour; that is to say, a consumption of 175 lbs. per hour for the 400 h.p. at full speed. Were the ship destined for American waters the fuel bill for a 24-hour day would be under \$13, taking the cost of fuel at three cents per gallon. Doubtless, everyone will agree that

So many successful motors of the Diesel type are now being built abroad that the selection of any particular one for description has become a difficult task. The leading claim to distinction of the Polar motor is that it drove Capt. Amundsen's famous Fram to the Antarctic on his successful journey to the South Pole. For this reason and because of its many interesting features, we have had Mr. Wilson prepare a description of it.—Editor.

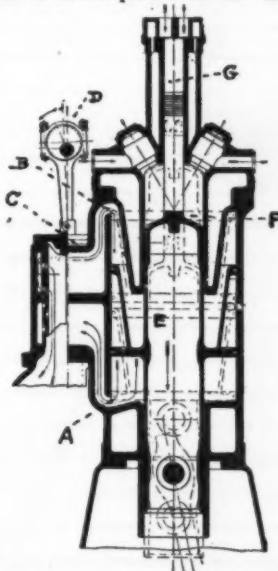


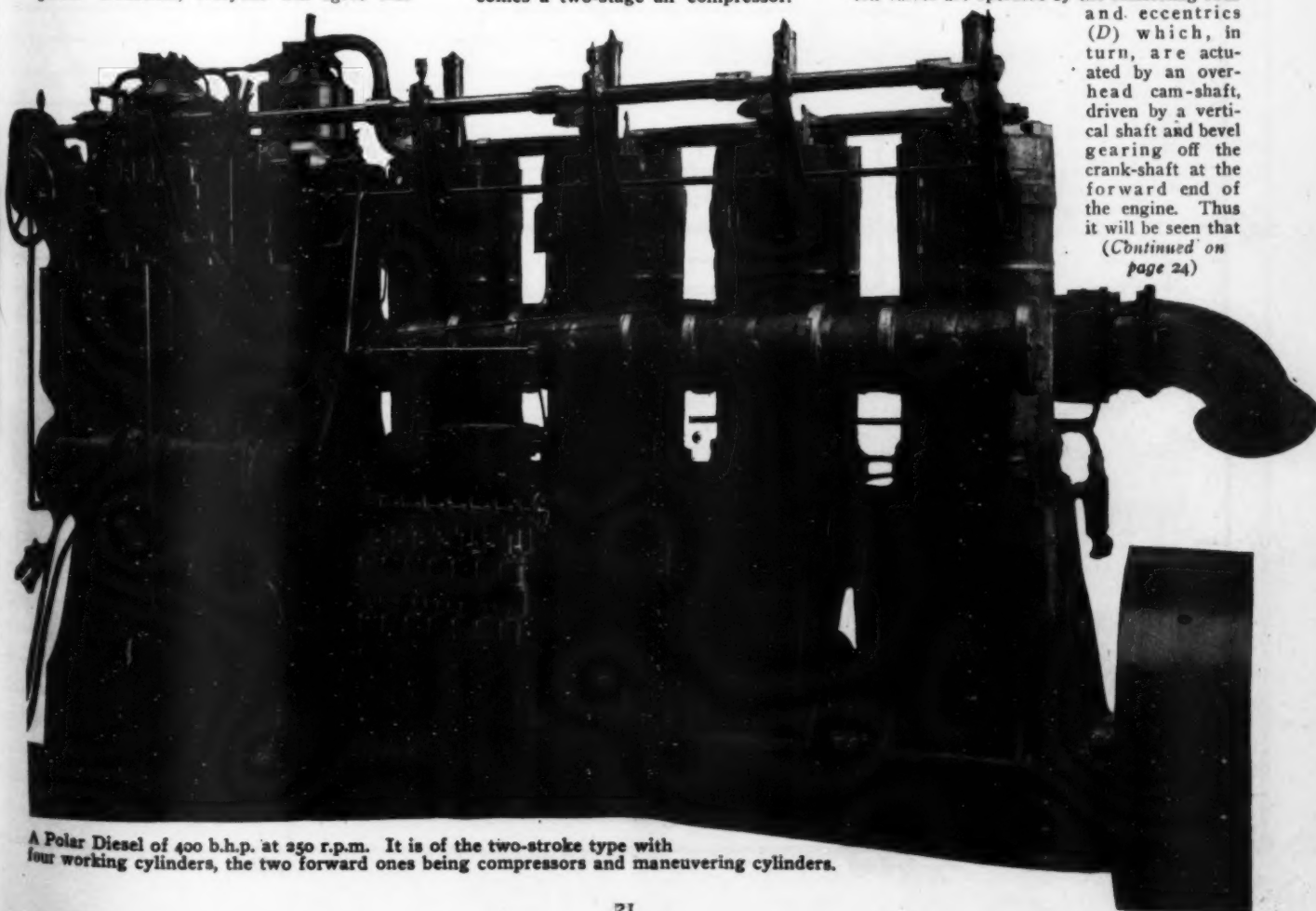
Fig. 1.—A cross section of the after maneuvering cylinder. It acts as an air engine in starting and when the motor is running, becomes a two-stage air compressor.

this a wonderfully low figure for machinery of 400 h.p.

Let us now turn our attention to the two maneuvering-cylinders and their respective duties. Both of these cylinders are double-acting, and their cranks are set at 90 degrees, as are the cranks of the working-cylinders, so that perfect balance is maintained, and a start can be made on air with the cranks in any position. For starting purposes, they are used as air engines, obtaining their supply of air from a reservoir. Particular note should be taken of the after maneuvering-cylinder (Fig. 1) which is doubly stepped, the pistons (F) and (G) forming a two-stage air compressor for fuel injection. The compressor (G) accepts air already compressed by the compressor (F), via a cooler, and re-compresses it to 50-60 atmospheres (735-882 lbs. per square inch). When the engine is running on fuel, the double-acting piston (E), shown by dotted lines, becomes a pump and supplies scavenging air to the four working-cylinders at 0.2 atmospheres (5 lbs. per square inch). In the case of the forward of the two maneuvering-cylinders, which also contains a double-acting scavenging pump, the piston is singly stepped, the upper section forming a compressor for supplying a reservoir with air at 150 lbs. per square inch for starting and reversing purposes.

From the double-acting pumps (E), one in each maneuvering-cylinder, the air passes out at (A) and (B) to the ports in the working-cylinders, the supply being controlled by a piston valve (C), one being mounted on the port side of each maneuvering-cylinder. These piston valves are operated by the connecting rods and eccentrics (D) which, in turn, are actuated by an overhead cam-shaft, driven by a vertical shaft and bevel gearing off the crank-shaft at the forward end of the engine. Thus it will be seen that

(Continued on page 24)

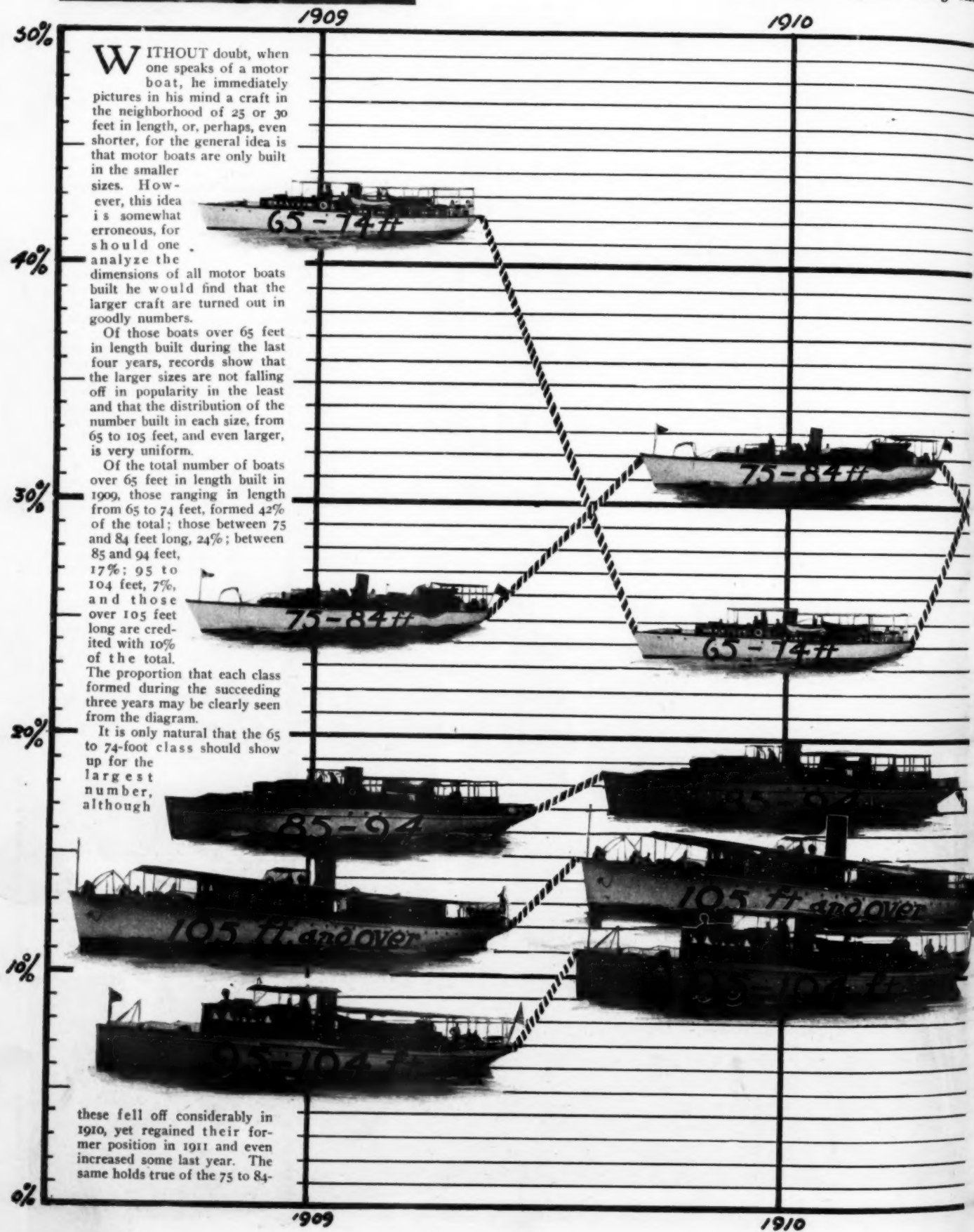


A Polar Diesel of 400 h.p. at 250 r.p.m. It is of the two-stroke type with four working cylinders, the two forward ones being compressors and maneuvering cylinders.



# Are American Motor

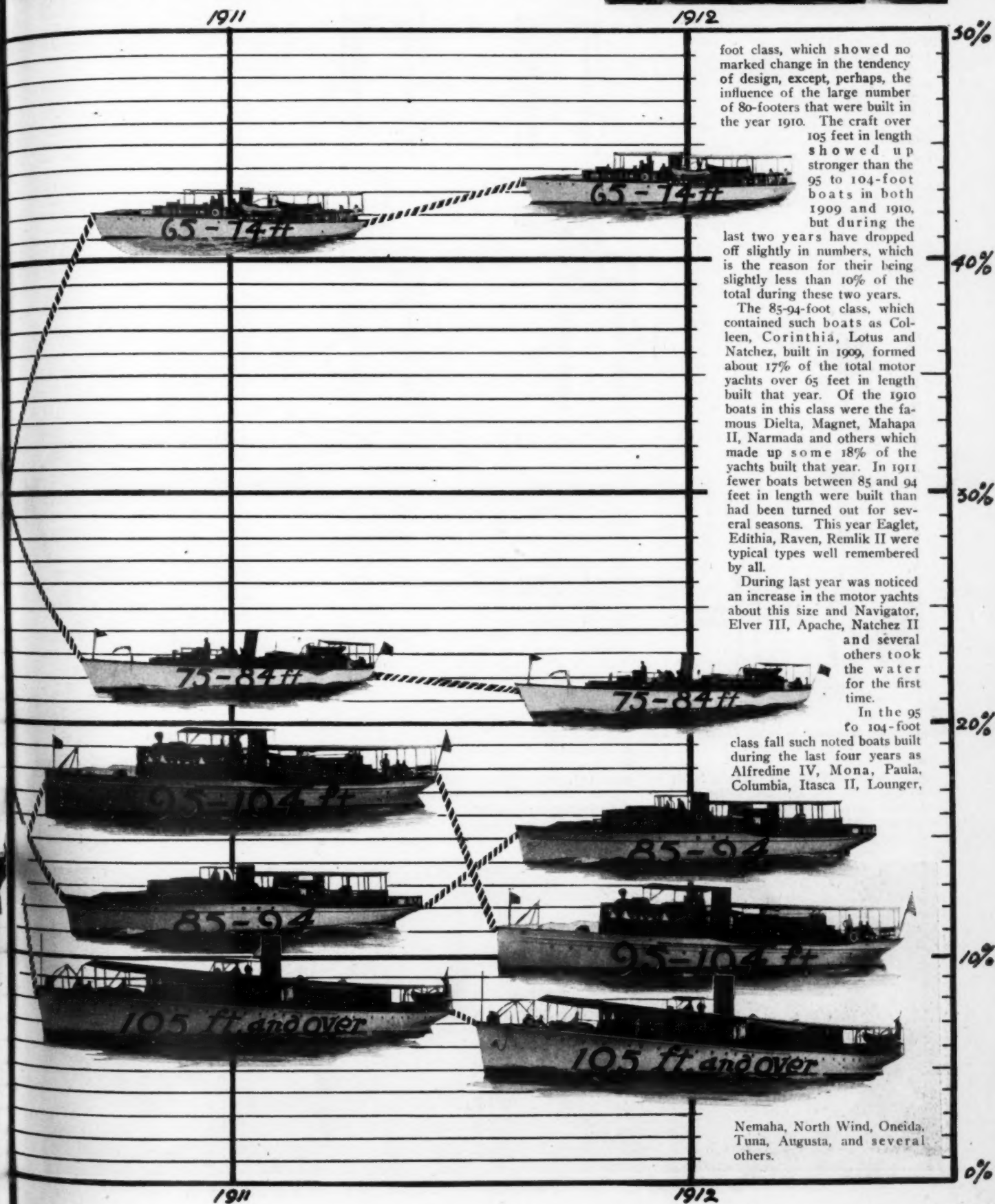
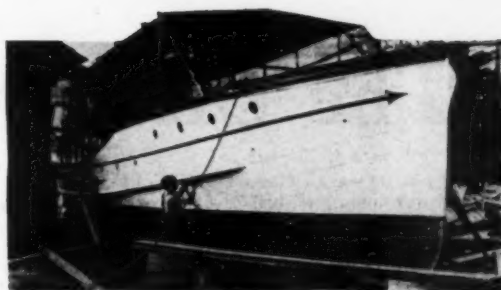
An Analysis of the Sizes of Motor Yachts Over Yards During the Last Four Years, and Building During this





# Yachts Getting Bigger?

Sixty-five Feet in Length Built in the American  
The Progress and Trend of Design  
Period Shown Graphically.



# The Diesel of Amundsen's Fram.

(Continued from page 21)

four scavenging air-blasts are obtained every revolution, which gives a very efficient supply to the four working-cylinders and clears out all burned gases.

When it is necessary to start the engine, the two double-acting scavenging pistons (*E*) are temporarily utilized as air engines, air being admitted (by the piston valves (*C*) from the air reservoir through a reducing valve) to whichever side of the piston that happens to be in the correct position; that is to say, either at (*A*) or (*B*). The air reservoir, as before mentioned, is charged by the compressor in the forward cylinder. Should the air in the reservoir fall below a certain figure, the compressor operates until the correct pressure is attained when a relief valve comes into action. For reversing, air is admitted in the same manner. A couple of revolutions on air is generally sufficient for the four working-cylinders, to pick up the load, either when starting or reversing.

Several advantages are gained by the Hesselman system, one being that ex-

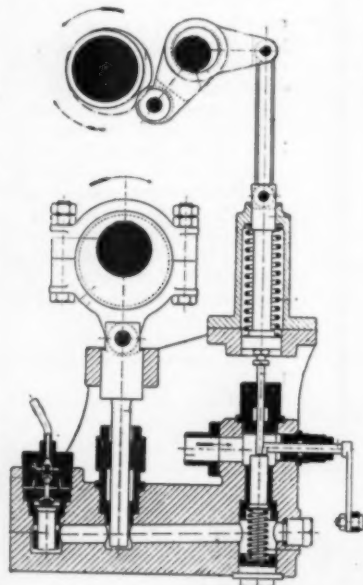


Fig. 3.—A sectional drawing of one of the four fuel pumps.

cessive valve gear on the cylinder heads is dispensed with, the only one being the fuel injection valve. Another point is that the working-cylinder castings are not subject to the strains and stresses caused by changes in

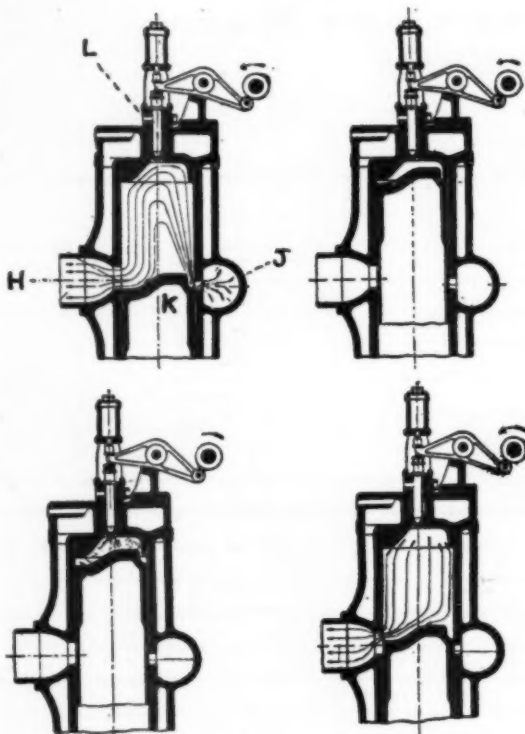


Fig. 2, a, b, c and d. Diagrammatic sections of a working cylinder at different periods of the cycle.

temperature through suddenly admitting cool air to the hot working-cylinders when reversing. It may be argued that too much mechanical efficiency is absorbed by the two maneuvering-cylinders, which are always running; but this is not so, as they are continually giving valuable work, and it is necessary for an engine of the two-stroke Diesel-type to have a three-stage air compressor constantly in action. This must absorb a certain amount of power; with big engines, however, auxiliary power is usually provided for this purpose. With the Polar engine, the power absorbed by cams and rockers is greatly reduced.

Turning again to the working-cylinders, Figs. 2a, 2b, 2c and 2d show a section of one of these; it will be seen that the piston-head (*K*) is specially shaped in order that the exhaust ports (*H*) are opened, on the down stroke, some little time before the scavenging ports (*J*), so that the exhaust gases may pass out and the pressure become reduced before the admittance of scavenging air; whilst on the up-stroke, the scavenger ports are closed before the exhaust ports. The fuel injection

valve is shown at (*L*). Fig. 2a shows the scavenging action and the filling of the cylinder with pure air, while Fig. 2b illustrates the piston compressing the air to 526 lbs. per square inch, generating, of course, an enormous heat. Fig. 2c shows the fuel being injected by air-blast at about 800 lbs. per square inch, combustion being instantaneous, and Fig. 2d depicts the exhaust gases passing out just before the opening of the scavenging port.

For each cylinder there is a separate fuel pump, which supplies at each stroke of the plunger the correct quantity of fuel to be injected. Fig. 3 shows a section of one of the fuel pumps. The operation is by rockers and links from the engine cam-shaft, and the links are pivoted eccentrically on a spindle, which can be turned by hand, when desired, thus altering their position relative to the cam, and so varying the opening of the suction valves. This action controls the supply of fuel that is forced to the in-

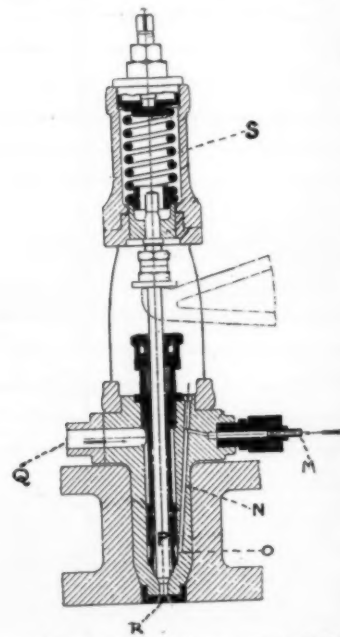


Fig. 4.—Cross section of one of the fuel injection valves.

jection valve. For reversing, the cam-shaft is moved fore and aft, bringing fresh sets of cams into action for both the injection valves and the pump-link rockers.

The fuel injection valves are of great interest and Fig. 4 depicts a section of one of these.



The new steel life barge of the Welin Marine Equipment Company, showing its almost unlimited carrying capacity.





# NEW MOTOR BOAT DESIGNS



## A High-Speed Cruiser.

THE plans below are of the 60-ft. high-speed cruiser designed by Mr. Wm. Edgar John, of Philadelphia, for Mr. R. P. Smith, of the Keystone Yacht Club, who will use the boat when completed on the Delaware River and Bay. The problem in laying out the craft was to obtain the low rakish appearance of the torpedo boat type, consistent with her speed of 20 miles an hour, and at the same time to obtain substantial construction. The hull, in fact, is rather heavily built for a fast boat, the frames being of oak  $1\frac{1}{2}$ " x  $1\frac{1}{4}$ " planked with  $1\frac{1}{8}$ " light cedar. The keel is of white oak, sided 6 inches and there is a heavy keelson running the entire length of the boat over the floors.

The usual chain locker is in the fore peak and is accessible through a deck plate forward. Next aft is the crew's toilet room, followed by the forecabin with two transoms and two pipe berths. There is a sunken pilot house for the use of the helmsman in bad weather and the space beneath this is occupied by water and gasoline tanks, lockers, etc. Beneath the bridge are the galley to starboard and the toilet room to port. A trunk extends from the bridge over the main saloon and continues aft as a narrower trunk over the engine room. The accommodations in the main cabin are sufficient to sleep several persons comfortably, although the boat is primarily for day service and no great amount of accommodation has been attempted.

The engine room is aft beneath two watertight bulkheads and the lower plant

### A 60-Footer for Day Service, with a Speed of 20 Miles an Hour.

consists of two 8 cylinder  $5\frac{1}{2}$ " x  $6\frac{3}{4}$ " Sterling motors turning at 800 r.p.m. and while the contract only calls for 20 miles per hour, the designer expects that it will be possible to do 25 miles when necessary. The switch board is located on the forward bulkhead to port and to starboard is a dynamo belted to the engine. The engine compartment is accessible from the large cockpit through an after companionway, although there is no communication between it and the main saloon amidships. The cockpit is exceedingly roomy and is sunk only 12 inches below the sheer line, which keeps the awning low without interfering with the self-bailing properties. Under the cockpit floor on either side are 100 gallon seamless steel gasoline tanks and the rest of the space is available for storage, being accessible through two manholes in the cockpit floor.

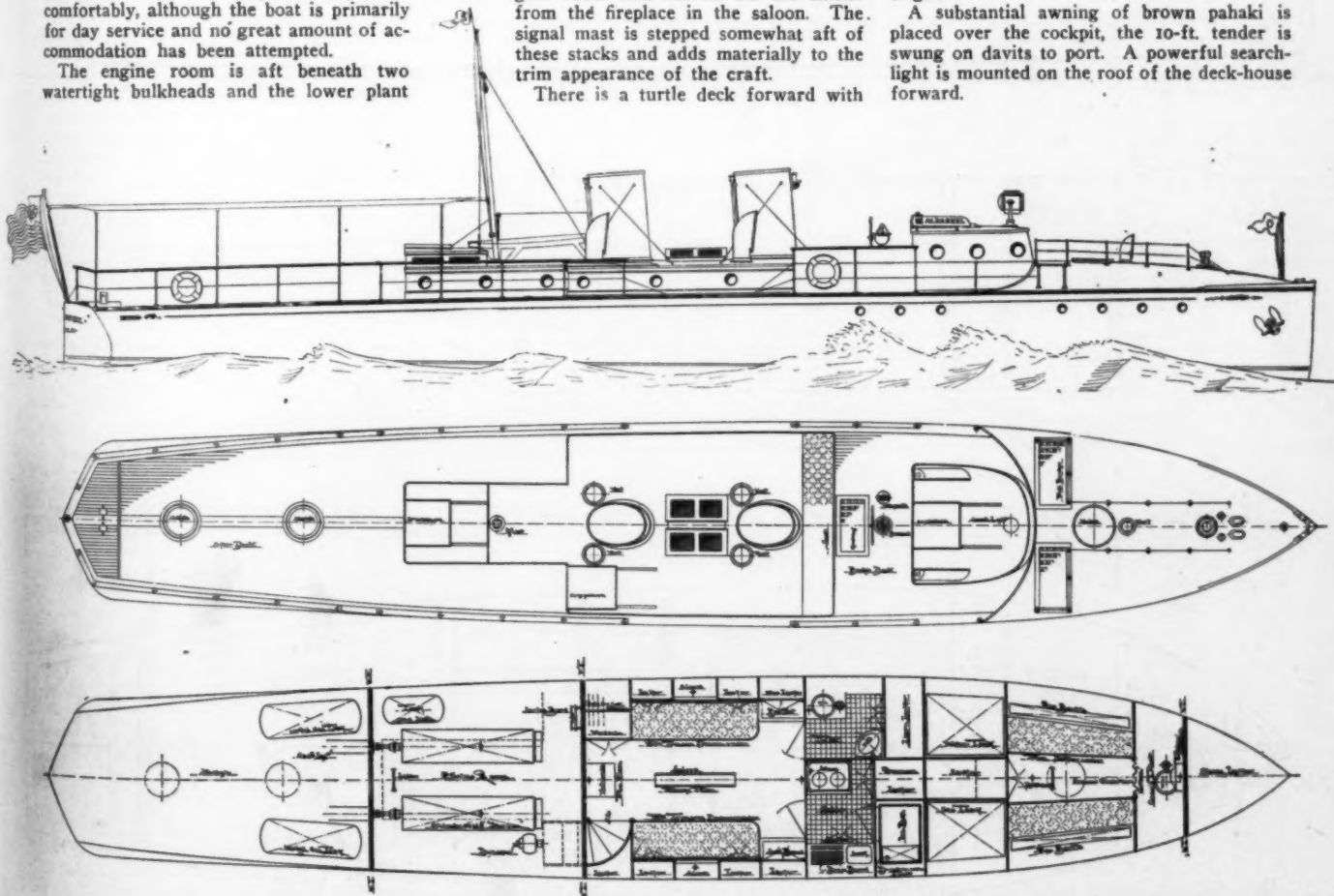
The outboard profile shows two stacks, the forward one of which ventilates the saloon and carries a whistle tank and the stack from the galley. The after stack ventilates the engine room and carries off the smoke from the fireplace in the saloon. The signal mast is stepped somewhat aft of these stacks and adds materially to the trim appearance of the craft.

There is a turtle deck forward with

two bridge decks arranged on either side and provided with rails to protect the crew when working with lines forward. Two large anchors are carried in the hawsepipes. The bridge deck is just aft of the pilot house which protects the man at the wheel. On it are arranged the binnacle and engine telegraph, besides the steering gear and there is a comfortable seat across the forward end of the trunk. Special care is given to the matter of ventilation and all the ports are arranged to swing in. These, together with the five cowls and stacks, should accomplish the desired results.

As to interior finish, the crew's quarters are done in brown, the interior of the pilot house is in white enamel with mahogany trim and the galley floor and walls are tiled and finished in white enamel, as is also the toilet room. The main saloon is finished in paneled and carved mahogany with cushions, carpets and curtains of royal blue. All exterior work is of mahogany finished bright and the top sides of the hull are black with bright green bottom paint and a white boot top between. The pilot house is painted black, the forward deck and cabin top, ventilators and stacks being finished in navy buff. The side decks and cockpit floor are all of white pine finished bright.

A substantial awning of brown pahaki is placed over the cockpit, the 10-ft. tender is swung on davits to port. A powerful searchlight is mounted on the roof of the deck-house forward.



The fast 60-footer designed by W. E. John of Philadelphia for Mr. R. P. Smith of the Keystone Yacht Club.

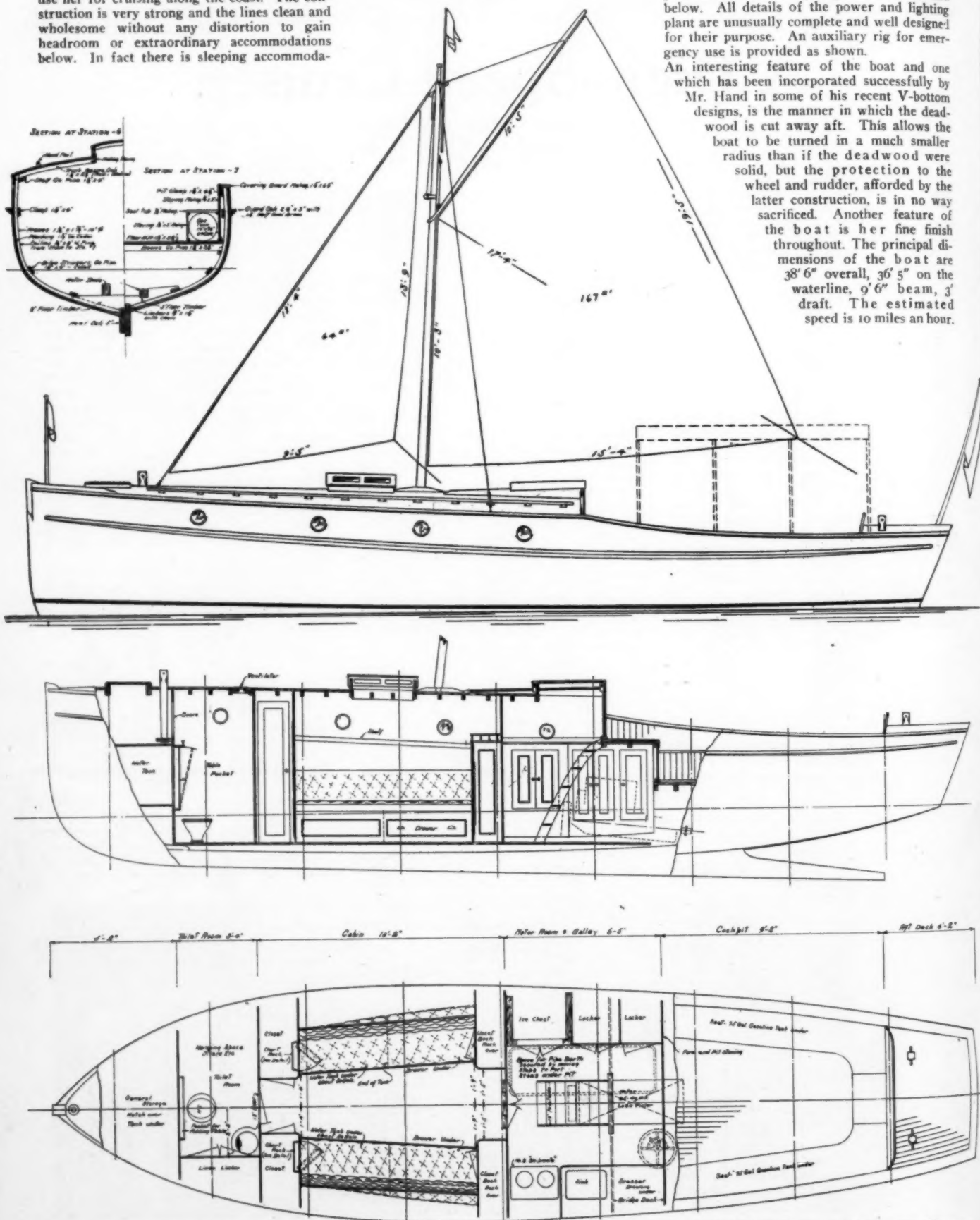
## A Raised Deck 38-Footer.

**A**T Edgartown, Mass., there is being built a 38-ft. raised deck cruiser from the design of Mr. Wm. H. Hand, Jr., of New Bedford, shown herewith. The new boat is for Mr. Francis A. Foster, of Boston, who will use her for cruising along the coast. The construction is very strong and the lines clean and wholesome without any distortion to gain headroom or extraordinary accommodations below. In fact there is sleeping accommoda-

tions for but two persons besides a berth for the man in the engine room, but these accommodations are excellent and the cockpit is amply proportioned so that a large party can be carried for day runs.

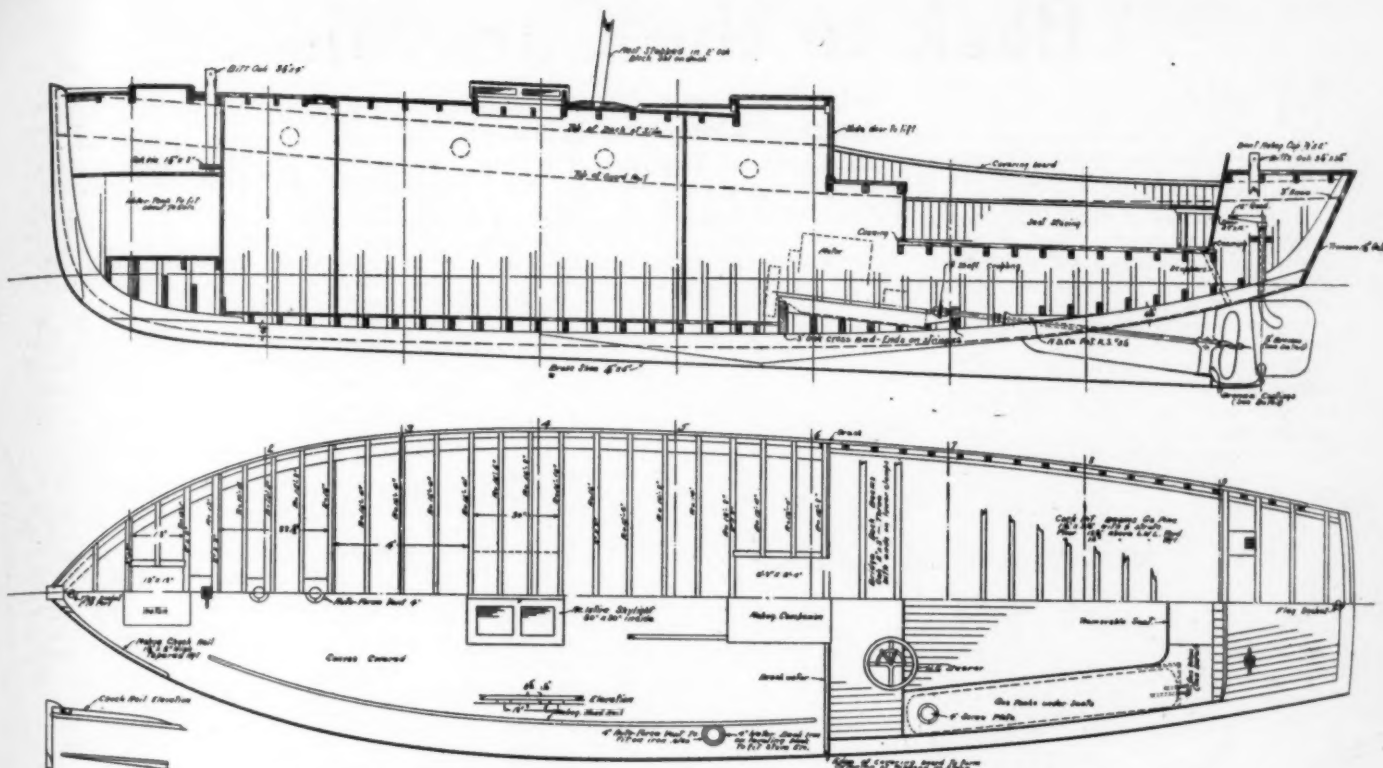
The motor is to be a 25 h.p. four cylinder Loew Victor installed under the bridge deck with all controls led to the wheel. An electric self-starting device will be fitted to the motor which in addition to starting the motor will provide current for lighting both on deck and below. All details of the power and lighting plant are unusually complete and well designed for their purpose. An auxiliary rig for emergency use is provided as shown.

An interesting feature of the boat and one which has been incorporated successfully by Mr. Hand in some of his recent V-bottom designs, is the manner in which the deadwood is cut away aft. This allows the boat to be turned in a much smaller radius than if the deadwood were solid, but the protection to the wheel and rudder, afforded by the latter construction, is in no way sacrificed. Another feature of the boat is her fine finish throughout. The principal dimensions of the boat are 38' 6" overall, 36' 5" on the waterline, 9' 6" beam, 3' draft. The estimated speed is 10 miles an hour.



The trim 38 footer designed by Wm. H. Hand Jr. for Mr. Francis A. Foster of Boston and now building at Edgertown, Mass.





The construction plan and elevation of the Hand 38-footer described on the opposite page.

## A 60 Footer of Novel Design.

THE outboard profile and accommodation plan shown at the bottom of this page are from a recent design by Atkin-Wheeler Company, of Halesite, Huntington Harbor, L. I., for a resident of Huntington, and in many features it will be seen that she is radically different from the usual craft of her class. The sheer is unbroken from stem to transom and the freeboard is more than usually ample. There is a trunk forward over the main cabin, a bridge deck amidships and another trunk over the living quarters aft with a cockpit in the stern.

Below deck the layout is as follows: The crew's quarters are forward and are provided with transoms, pipe berth and toilet accommodation. Aft of this compartment is a full-width galley, occupying part of the space beneath the for-

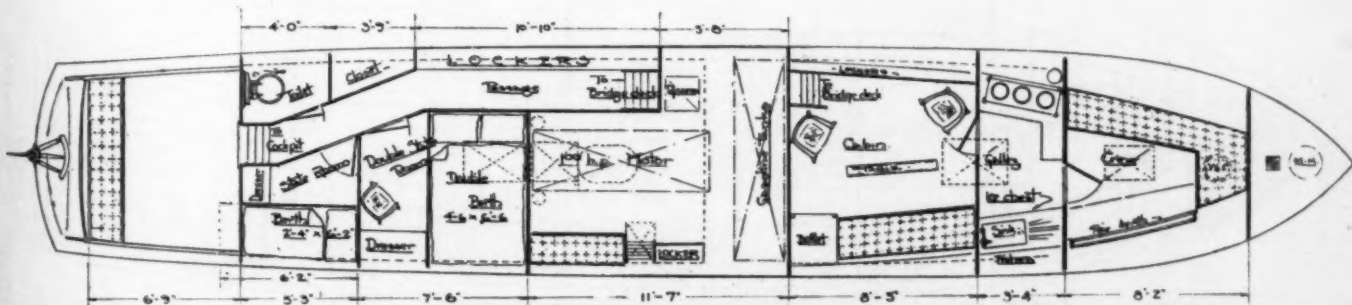
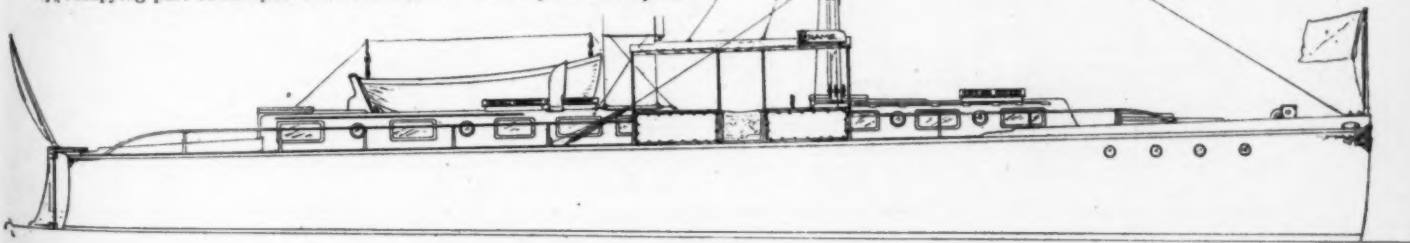
**Designed for Fast Cruising by the Atkin-Wheeler Company and Guaranteed for 20 Miles an Hour.**

ward trunk, and well ventilated by the windows and skylight in the latter. Next aft is the main saloon with the transom and buffet on the starboard side, a table amidships, several chairs and a companionway to the bridge deck to port. The after quarters are entered by a companionway to

port, which leads to a passage running clear to the cockpit. To the left of this passage are lockers, and to the right are the motor room amidships, a double stateroom aft of it and a single stateroom still farther aft. Opposite the latter are a toilet-room and a large hanging closet to port.

The motor is an eight-cylinder 6 1/2" x 8" Sterling heavy-duty model, equipped with Bosch double system of ignition and complete electric light plant. The motor room is isolated from the rest of the boat by watertight bulkheads and contains a 250-gallon gasoline tank.

The boat is guaranteed for the exceptional speed of 20 miles.



The Atkin-Wheeler 60-footer is a departure from the usual boats of her class. Her freeboard is high, her sheer is unbroken from stem to transom and there are trunks forward and aft with a cockpit in the stern. The interior layout is also unique.

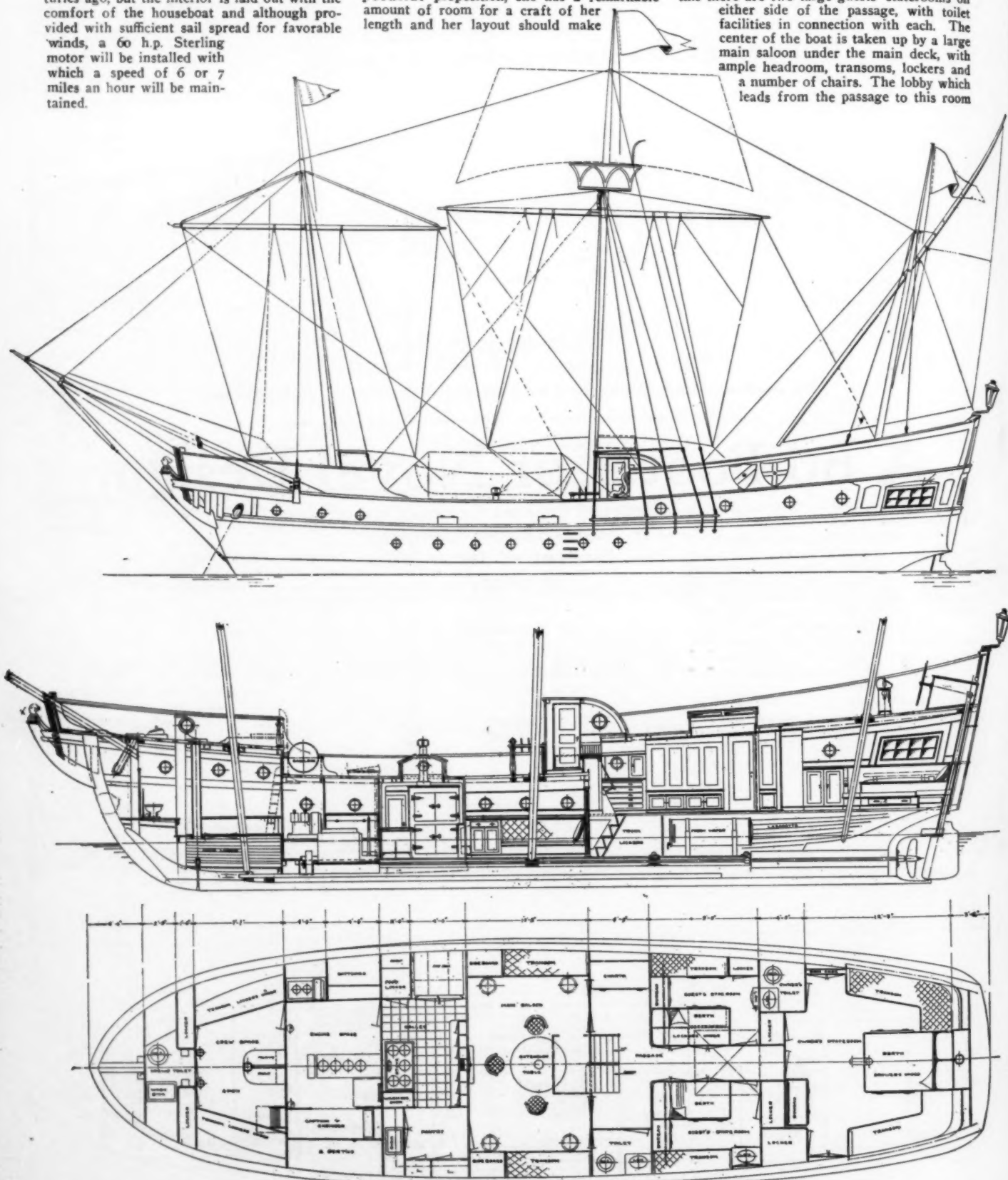
# Back to the Caravels.

**M**ESSRS. SWASEY, RAYMOND & PAGE, of Boston, have recently turned out the interesting design on this page for Mr. Henry A. Morss, of Boston. In model, the new craft, which is being built by Messrs. Stearns & McKay, of Marblehead, is practically a replica of the craft of four centuries ago, but the interior is laid out with the comfort of the houseboat and although provided with sufficient sail spread for favorable winds, a 60 h.p. Sterling motor will be installed with which a speed of 6 or 7 miles an hour will be maintained.

## A Unique Power House Boat Designed Along the Lines of the Craft of Columbus's Day.

While at first sight the boat looks like a peculiar proposition, she has a remarkable amount of room for a craft of her length and her layout should make

her an attractive and comfortable craft to live on. By working out the high quarter deck as shown, carrying the sheer well up aft, the designers were enabled to obtain an excellent stateroom in the stern with exceptional light provided by the large windows at the sides and in the transom. Just forward of this there are two large guests' staterooms on either side of the passage, with toilet facilities in connection with each. The center of the boat is taken up by a large main saloon under the main deck, with ample headroom, transoms, lockers and a number of chairs. The lobby which leads from the passage to this room



Mr. Harry A. Morss's unique houseboat is practically a replica of the sturdy craft of four centuries ago, and is powered with a 60 h.p. Sterling engine.



is in easy communication with the deck above and is an excellent navigating room.

The galley and pantry occupy the space next forward and extend the full width of the boat. The motor room is forward of it with the

stateroom for the captain and engineer to port, and the forecabin providing accommodation for four men forward.

The displacement of the boat is 65 tons, which is almost double that for the usual craft

of her length, so that it is evident that she is sturdily built. The boat is now under construction at the yard of Messrs. Stearns & McKay and when completed will be sailed around the Cape to Long Island Sound.

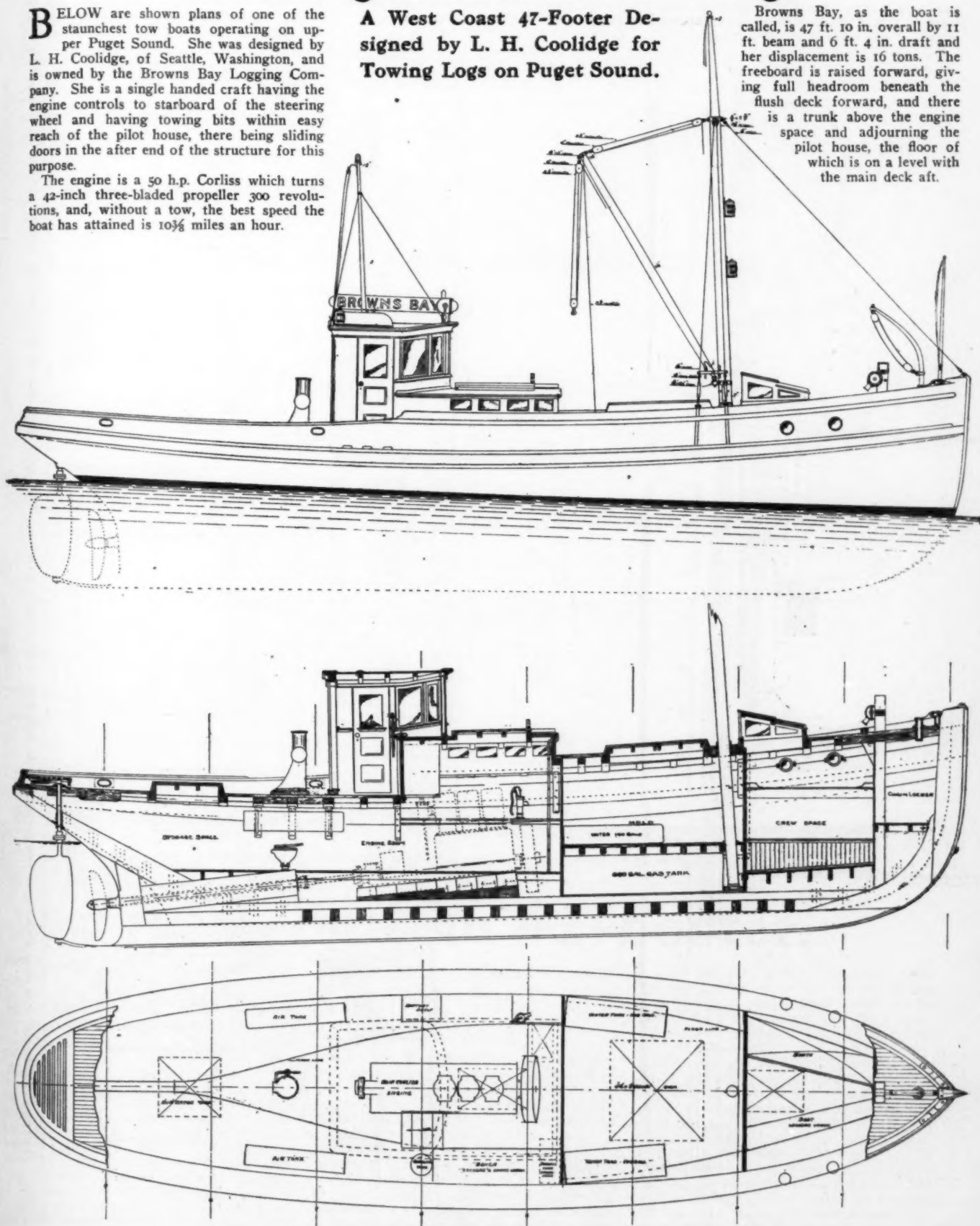
## A Single Handed Tug.

**B**ELOW are shown plans of one of the staunchest tow boats operating on upper Puget Sound. She was designed by L. H. Coolidge, of Seattle, Washington, and is owned by the Browns Bay Logging Company. She is a single handed craft having the engine controls to starboard of the steering wheel and having towing bits within easy reach of the pilot house, there being sliding doors in the after end of the structure for this purpose.

The engine is a 50 h.p. Corliss which turns a 42-inch three-bladed propeller 300 revolutions, and, without a tow, the best speed the boat has attained is 10½ miles an hour.

**A West Coast 47-Footer Designed by L. H. Coolidge for Towing Logs on Puget Sound.**

Browns Bay, as the boat is called, is 47 ft. 10 in. overall by 11 ft. beam and 6 ft. 4 in. draft and her displacement is 16 tons. The freeboard is raised forward, giving full headroom beneath the flush deck forward, and there is a trunk above the engine space and adjoining the pilot house, the floor of which is on a level with the main deck aft.



The 47-ft. tug is so arranged that she may be controlled entirely by one man.

# A Deep Sea Motor Yacht.

**T**HIS vessel has been especially designed by Messrs. Whittelsey & Whittelsey, of New York City, for heavy outside work. She is of the raised deck type with long low center house, care having been taken to protect this house from the sea and the design calls for ample freeboard and deep draft. The maximum is 8 ft. She is to be powered with three 65 h.p. gasoline motors driving triple screws. These engines are set very low in the

## A 95-Footer Designed Primarily for Outside Work by Messrs. Whittelsey & Whittelsey.

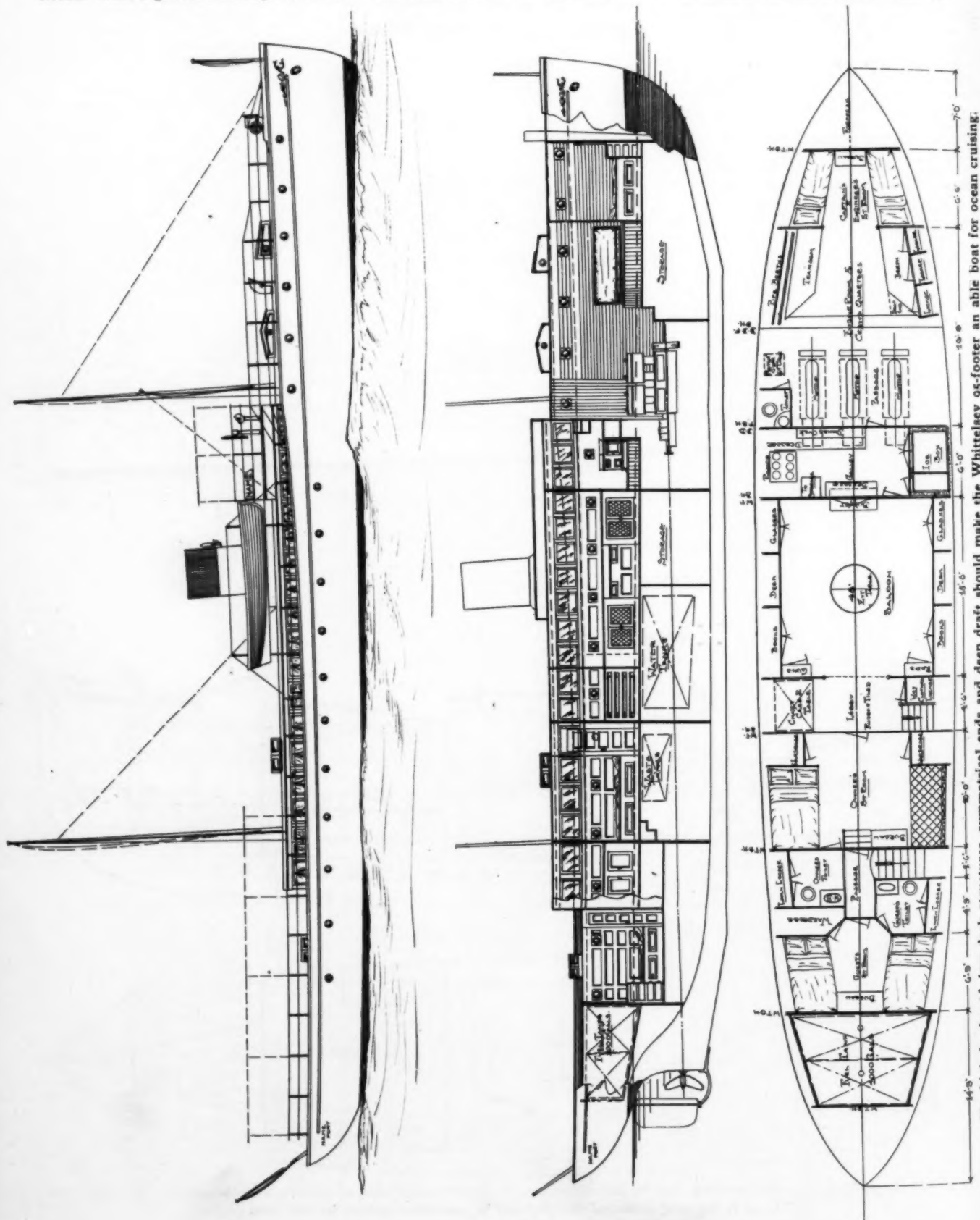
vessel, owing to the depth of the hull. The water and gasoline are also carried low and of large capacity for extensive cruising.

The construction of the boat is to be of

wood, extra heavy throughout and copper fastened. The rig is to consist of two stout masts carrying sufficient sail to steady the boat.

The interior layout consists of crew's quarters forward followed by gallery and engine room, main saloon and staterooms.

The boat is 95 ft. overall by 17 ft. beam and 8 ft. draft. Her form follows closely that of the 75 footer Edamena, well known as a remarkable sea boat of the deep bodied type.



The high freeboard, low deck structures, symmetrical ends and deep draft should make the Whittelsey 95-footer an able boat for ocean cruising.



# A Small Stock Cruiser.

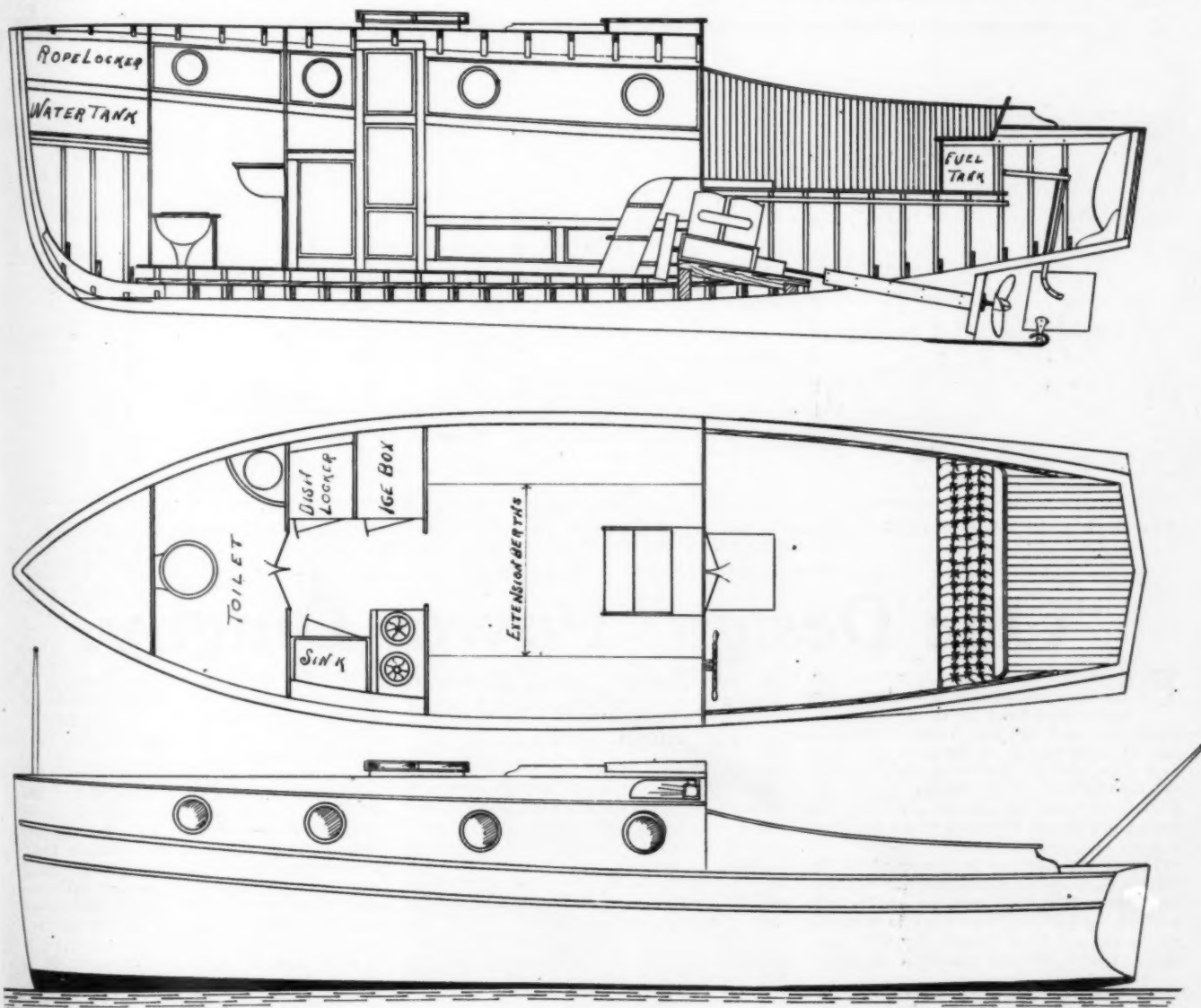
THE little boat shown below is one of the latest models of the Pioneer Boat and Pattern Company, of Bay City, Mich. She is of the usual raised-deck type, with an interior arrangement that is somewhat different from the prevailing practice. Instead of the galley aft beside the engine, and the side companionway, the galley is forward between the toilet-room and the cabin, well ventilated by

the sky-light and away from the engine. The companionway is arranged in the middle of the boat with the steps above the motor as in sail-boat practice. The motor is easily accessible through a hatch in the cockpit floor and projects but a little way into the cabin.

The cockpit is large enough to accommodate several chairs and there is a lazy-back seat across the after end, under which the fuel tank

is installed. There is an ample after deck, but the cockpit coaming has been carried practically out to the sides of the boat, eliminating the usual waterway and adding considerably to the width of the cockpit.

The dimensions are 26 feet overall, 7-feet beam and 2-ft. 6-in. draft and a 2-cylinder motor of 8 h.p. is installed. The boat may be had either complete or in knockdown form.



The galley of the Pioneer 26-footer is forward, away from the engine and well ventilated by the skylight.

# A V-Bottom 42-Footer.

THE plans shown on the following page are of a 42-ft. V-bottom cruiser, which was designed and is being built by the Bayonne Launch Company, of Bayonne, N. J., for Mr. A. Hoffman, of New York City.

This is probably the largest V-bottom cruiser that has been built, to be used solely as a pleasure craft. The seaworthy qualities of the V-bottom, or as it has commonly been known, the "skipjack," are appreciated by those who have had experience with this type, but the principal drawback heretofore, has been its box-like appearance, owing to the straight sides which have generally been built in these boats. This detriment, however, has been overcome in the Doyle model V-bottom boats, the Bayonne Launch Company is building, and it will be noticed that the plans herewith contain

**Probably the Largest Cruiser of this Popular Type Thus Far Built.**

(See plans on following page.)

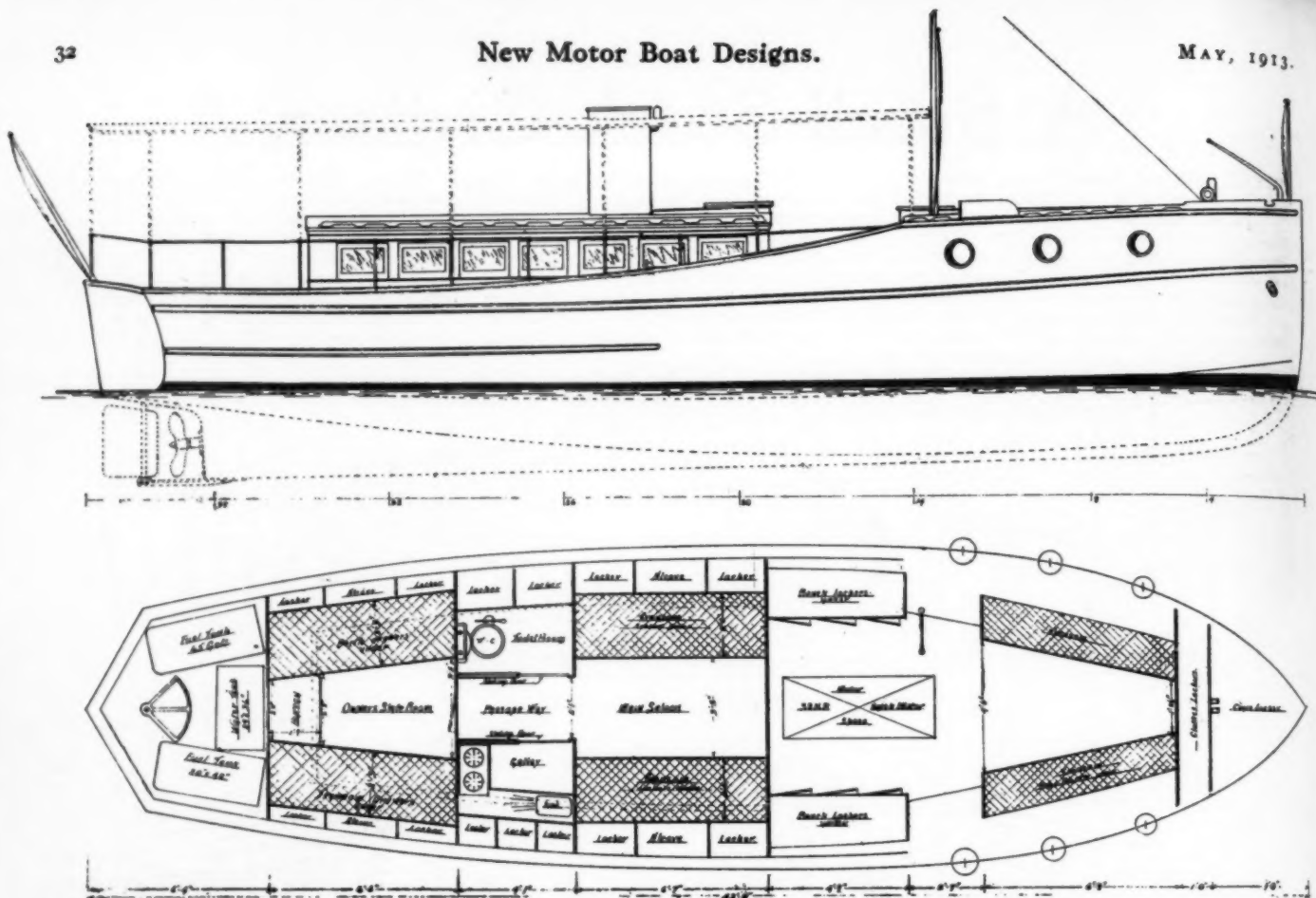
just enough round in the side frames to give the boat the appearance of a round-bottom cruiser. Above the waterline, the appearance is almost the same as the typical round-bottom double-cabin cruiser, but below the waterline the regulation V sections have been used.

The cruiser referred to is 42 ft. 6 in. in length and has a beam of 11 ft. The engine is located under the bridge deck, aft of which is the main saloon. Aft of this is the galley and the toilet-room, on opposite sides of a passage leading to the owner's stateroom. A flush deck

is located at the extreme after end of the boat, under which are the fuel and water tanks.

The motor is a 32-h.p. 2-cycle Hatch and the fuel used will be kerosene. The lines of the boat are very easy and a speed of 11½ miles per hour is expected.

Separating the stateroom from the main saloon, which will also be used as a sleeping compartment, by a passageway, and so locating the toilet room that it is accessible from either, are good features of the design as is also separating the galley and engine room, although in these days of thoroughly reliable installations of tanks, piping, etc., the latter point is of less importance than formerly. The stack is a feature seldom found on boats of this size and type, but will help ventilate when the windows have to be closed.



The Doyle 42-ft. V-bottom cruiser, building at the Bayonne Launch Company closely resembles the usual round bottom type above the waterline. See description on preceding page.

## "One Design" Power Dinghy.

FOR the past two summers a great amount of enjoyment and sport in English waters has resulted from the races between the small serviceable one design class of dinghies that has been formed by the yacht and motor boat clubs abroad. Following their example the Hudson River Yacht Racing Association, at their last meeting, adopted a similar class and already orders have been placed for about a dozen of these little craft.

The design that has been worked out by Charles F. Chapman, Commodore of the New York Motor Boat Club, assures a boat that will not only be excellent for racing in sheltered waters but will be serviceable for other purposes as well and will possess a reasonable

### A One-Design Class Powered With a 3 H. P. Ferro Adopted by the H. R. Y. R. A.

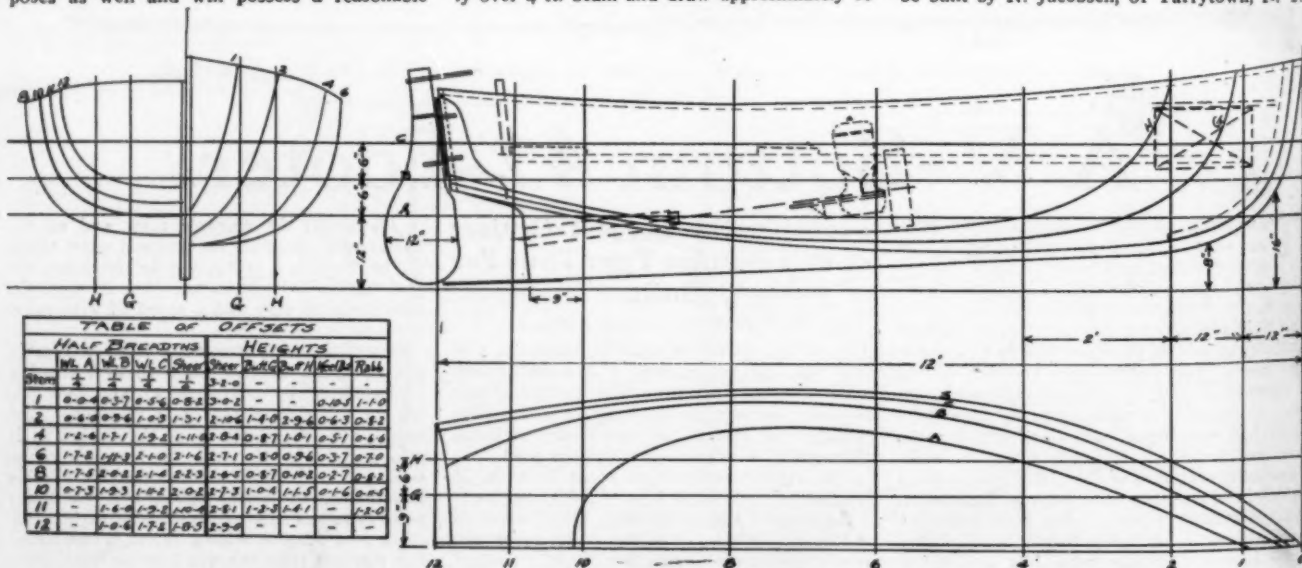
amount of seaworthiness. The low price at which it will be possible to build the dinghies in a quantity will be taken advantage of by those who cannot afford a larger boat and they will still have one that will answer all the purposes of the average open runabout.

They will also serve as an excellent motor tender for the larger cruiser as they will be easy to tow and stable as well.

The boats will be 12 ft. overall length, slightly over 4 ft. beam and draw approximately 16

inches of water. The single cylinder 3 h.p. Ferro motor, fitted with Perflex ignition, will give them a speed close on to 7 miles per hour, and a 6 gallon full tank will give them a larger running radius.

The keel and stem will be  $1\frac{1}{2}$  inches white oak, frames  $1\frac{1}{2}$ " x  $\frac{5}{8}$ " spaced 9" apart. The shaft log, transom and knees will also be of oak. Planking will be  $\frac{7}{16}$ " cedar, copper fastened and finished bright. Inside sheer, stringers and bilge stringers of yellow pine of ample size for rigidity and strength. The engine bed is  $1\frac{1}{2}$ " oak and the seats, thwarts and decks of cypress. The price of the boat and engine complete will be \$125, and they are to be built by N. Jacobsen, of Tarrytown, N. Y.



The design for the 12-ft. power dinghy which has been adopted by the Hudson River Yacht Racing Association for its one design class.





The homestretch at St. Augustine, Seminole leads. Fort Marion shows on the left in the background.

### The Florida Races.

Up to this year the principal southern meet has been held at Palm Beach. Now, St. Augustine has wrested the distinction from her fashionable rival. The construction of a new bridge across Lake Worth, precluded further racing of the first order on this shallow body of water, for it is now almost impossible to find enough water for laying out a decent course. St. Augustine, on the other hand, has an excellent two and a half knot certified course, of triangular shape with a re-entering angle in one leg, and so laid out as to permit a view of the whole course from the start and finish line. But by far the best course for racing is the newly laid out and certified course on the Indian River off Rockledge and Cocoa. The Indian River has plenty of water at this place, and here in one of the choicest fruit sections of Florida between Merritts Island and the mainland is an ideal racing stretch. This new course is practically straight-away down and back to the start, but is in reality a rectangle with eighth of a mile turns at both ends.

Here was held under the auspices of the Rockledge-Cocoa Yacht Club, on March 18th, 19th and 20th, the first recognized meet on the Indian River receiving the sanction of the A. P. B. A. This three-day meet consisted of nine events, two of which were scratch affairs, and the other seven, handicap. With the exception of Carolina II, a speedy hydro, owned by Edw. J. Dulme, of Ocean City, N. J., all of the eleven starters were Florida designed and Florida built boats. Of these the fastest was Greyhound, owned by George Gagnier, of Rockledge. She is a 20 foot hydro with 3 1/2 foot beam and powered with a 6 cylinder 75 H.P. Emerson. Though making over this certified course and under certified timing approximately thirty-three miles per hour, Greyhound encountered a mountain of hard luck and was unable consequently to walk off with any of the attractive prizes offered by this prosperous club. The different events produced good racing, however, and, though the times were far slower than of the first order, the finishes were thrillers and excitement ran high. The Cocoa meet is now a permanent affair for the Indian River Championship, with cup prizes having no strings attached. In conformance with the new rule of the A. P. B. A. in the future there will be no racing for cash prizes in Florida waters.

Two weeks after the close of the Rockledge-Cocoa affair the St. Augustine meet took place in connection with the city's celebration in commemoration of the landing of Ponce de Leon. Preparations for this meet unfortunately had to be abbreviated owing to a necessarily late announcement, which greatly handicapped Secretary Charles F. Hopkins, Jr., in his efforts to secure the appearance of some top notchers.

The races for the Southern Championship consisted of the best two out of three races, the first two of 35 nautical miles each, and the final of 10. The outcome was a close race between two Jacksonville speed boats, Seminole and Adelaide, with a final victory for Seminole. There were eight starters.

Besides the races for the Southern Championship, a number of 10 and 15 mile handicaps were run out for boats of different classes.

### Pacific Championship.

On July 3, 4, and 5 the annual races for the motor

boat championship of the Pacific Coast will be run at Astoria, Oregon. The events will be held under the auspices of the Pacific International Powerboat Association and there will be the following cash prizes: Free-for-all class, \$1,000; twenty-six foot class, \$600; twenty foot class, \$500, and sixteen foot, \$400.

### Race for Lipton Cup on June 21st.

The date for the first race for the \$2,500 Viking Trophy offered by Sir Thomas Lipton has been set for June 21st, 1913, starting at 5 P. M. The course will be from Huckleberry Island, off New Rochelle Harbor, to the west harbor at Block Island, R. I., a distance of 100 nautical miles. This race is open to

cruisers having a waterline length between 30 and 38 feet, a waterline beam between

LWL + 3' and LWL + 5' and a piston displacement in cubic inches between  $\frac{9}{(LWL)^2}$  and  $\frac{9}{(LWL)^2}$ .

In other words it is a semi-restricted class, the aim being to have a race between sea-worthy boats of sizes and powers not widely different. The crews must consist entirely of amateurs and the handicaps will be based upon the new Viking rating rules which differ materially from the A. P. B. A. rules. These rules are very simple and consider only the bore and stroke of the engine and beam of the boat. They offer a much better chance to win to the cruiser that was not built solely for racing purposes.

The prize for this race offered by Sir Thomas Lipton must be won three times by the same owner to become his permanent property. The New York Athletic Club under whose auspices this race will be run, have offered a trophy under the same rules to go to the winner and to become his property at once.

There is also a cup offered by a prominent yachtsman to the boat defeating the largest number of boats which compete in the three most important long distance races in the east this year—The Block Island Race on June 21st, the New York-Albany and return Race on June 28th and the New York-Cornfield Reef and return race on July 12th.

Simultaneously with this race will be held the annual race of the New York Athletic Club to Block Island in competition for the Day Trophy and boats competing for this may also compete for the Lipton Trophy at the same time. The race for the Day Cup is open to cruisers between 25 and 40 feet overall length.

### Busy Season for Chicago Fleet.

At a recent meeting of the Chicago Motor Boat Club, elaborate plans were laid for a very busy summer season. Races will be held off Lincoln Park twice a month, under the recently adopted rules of the Mississippi Valley Power Boat Association with which the club is affiliated as well as the Western Power Boat Association. Long Distance cruises will occupy the alternate two weeks of the month. The following officers were elected: Commodore, W. W. Nugent, Vice-Commodore, P. A. Hefz; Rear-Commodore, H. S. House; Secretary, W. Gray; Treasurer, Geo. H. Baker.

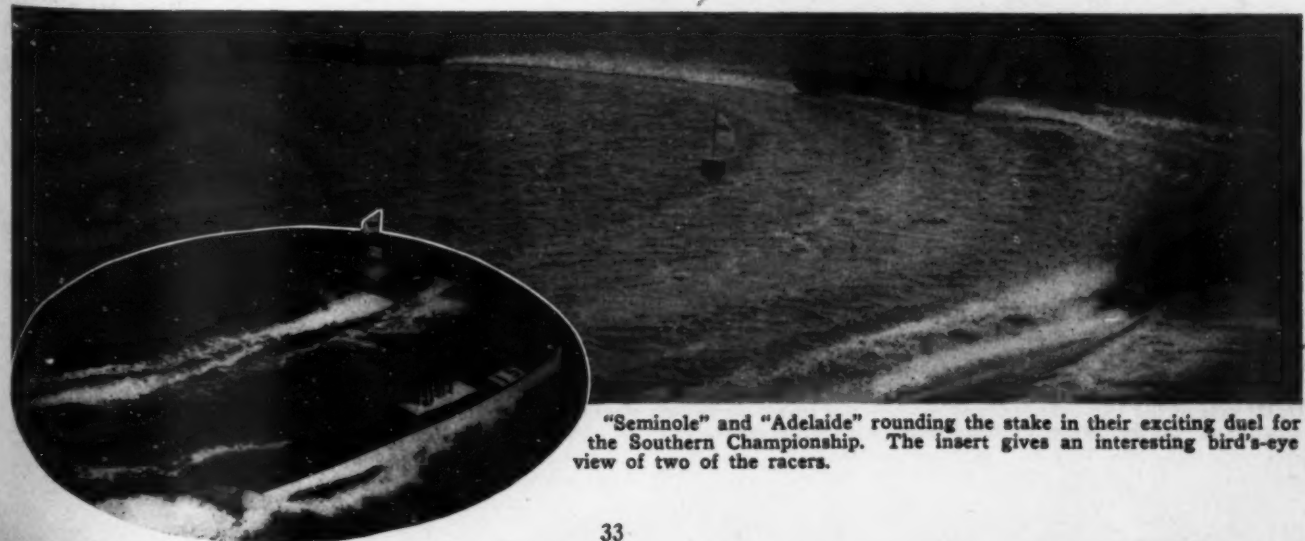
### Pleasant Outlook for Oswegatchie Yacht Club.

The Oswegatchie Yacht Club is planning to make that organization one of the most active on the St. Lawrence. Although only a year old, they own their own grounds, docks and boat houses, among which are a dozen 45-foot slips and six 60-foot basins to receive power crafts. The members also are making every effort to obtain additions to the membership of the club.

(Continued on page 70)



"Seminole," winner of the "Championship of the South." This boat is powered with a 40-50 h.p. Buffalo Automarine motor.



"Seminole" and "Adelaide" rounding the stake in their exciting duel for the Southern Championship. The insert gives an interesting bird's-eye view of two of the racers.



# MARINE MOTORS



## Light Weight Maximotors.

Four Models of the Four Cycle Type Weighing less than 5 lbs. per Horsepower.

**E**NGINEERS of the Maximotor Co., of Detroit, Mich., have been planning and experimenting for nearly two years with the present new Maximotor and only after the most thorough investigation and severe tests, under which this motor has shown wonderful staying qualities, have they concluded to manufacture this type of motor and offer them for marine and aero-nautic service.

Maximotors are of the four-cycle type with over-head valves built in a factory devoted exclusively to the manufacture of Maximotors, and they are not built merely as a side line. While the Maximotor is a good example of a light-weight high-speed and powerful type of motor, yet its lightness has not been attained by cutting down to extremes the size and strength of the various parts. The joining together of parts where possible, and the elimination of others not absolutely necessary, combined with the highest grade material has brought about the solution of the weight problem in the construction of this motor.

Compactness has been carried out as well, making the motor especially desirable for hydroplane and hydro-aeroplane installations.

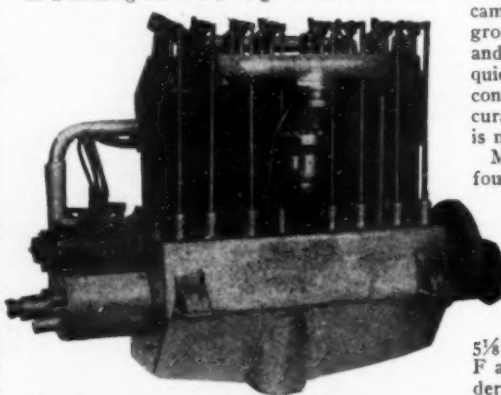
The crank shaft is made of chrome nickel steel, double heat-treated and having a tensile strength of 150,000 to 170,000 lbs. It is hollow-bored, machined and ground to within a thou-

sandth of an inch. The connecting rods are of an I-beam section of chrome nickel steel, drop-forged and are fastened at their crank shaft bearings by two nickel steel studs, being locked with two hardened jam nuts and cotter pins. The crank case is cast in one piece of special aluminum alloy with valve lift guides. The end plates act as housing for the crank shaft ball bearings. The front disc also serves as a housing for the time gear. The rear disc

supports the magneto and water pump and also houses the driving gears.

The cylinders are cast in pairs and ample water space is provided for cooling. The intake and exhaust valve seats are completely surrounded by water, making over-heating and warping impossible. The material consists of Vanadium gray iron of high tensile strength, making light cylinder and jacket walls possible. Cam shafts consist of special tubing. The cams are of an elliptical form, hardened and ground and held in place by taper steel pins and these, in turn, by cotter keys, producing a quiet rotary movement. Pistons are of the convex type made of Vanadium gray iron, accurately machined inside and out so that there is no possibility of unequal expansion.

Maximotors are made in six different models, four being stock models and two made-to-order only. Model A, four cylinders, 40-50 h.p., has a bore of  $4\frac{1}{2}$  inches and a stroke of 5 inches, weighs 200 lbs. complete. Model B, 60-70 h.p., four cylinders  $5\frac{1}{8}$ " x  $5\frac{1}{4}$ ", weight 245 lbs. Model C, 70-80 h.p., six cylinders  $4\frac{1}{2}$ " x 5", weight 275 lbs. Model D, 90-100 h.p., six cylinders  $5\frac{1}{4}$ " x  $5\frac{1}{2}$ ", weighing 350 lbs. Models E and F are made to order only, four and six cylinders  $6$ " x  $6$ ", rating 100 and 150 h.p., respectively.



Model B, light weight Maximotor 60-70 h.p.

## New Sterling Motors.

Two New Models of Heavy Duty Types and Two of the Medium and Speed Engines.

**F**OUR new engines have just been placed on the market by the Sterling Engine Company. Two are heavy-duty engines. One has four cylinders with a bore of  $6\frac{1}{2}$  inches and stroke of 9 inches, rated at 45-60 horsepower. The other heavy-duty machine has six cylinders with the same bore and stroke, rated at 70-90 horsepower. The other two are four-cylinder medium-duty and speed engines. One has a bore of  $4\frac{1}{4}$  inches and stroke of  $5\frac{1}{2}$  inches, rated at 20-35 horsepower. The other

has a bore of  $5\frac{1}{4}$  inches and stroke of 6 inches, rated at 30-50 horsepower.

All these engines are of the most recent type and embody the latest improvements in design. Flexibility, reliability and an abundance of power are their chief characteristics. The Sterling heavy-duty type is very flexible, due to the careful designing and balancing of cylinders and other parts. They are heavy-duty engines in every particular, but are capable of running at much higher speed than some

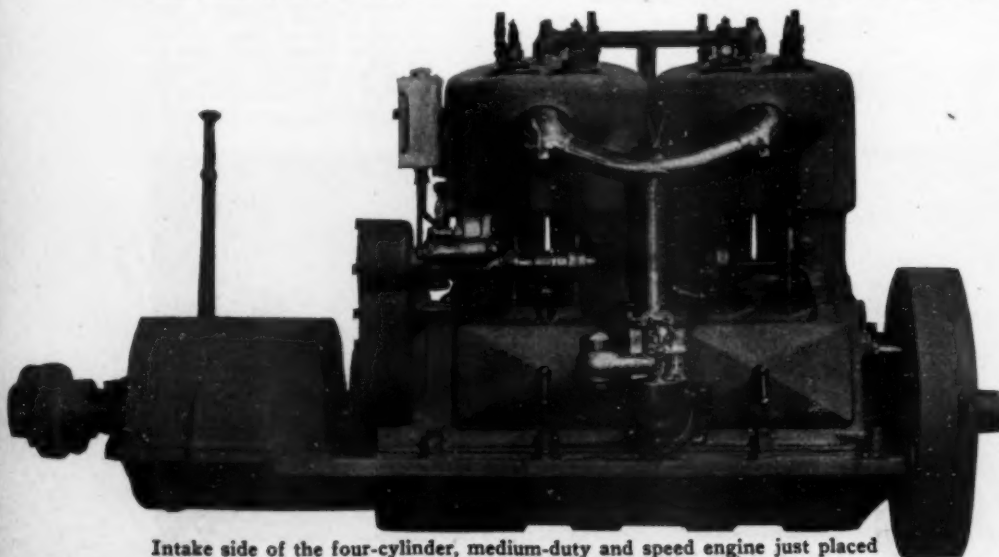
makes. It is principally for this reason and the great strength they possess that the United States Government selects them to power most of her battleship tenders and barges.

An original Sterling feature is the new crank shaft suspension, the shaft being hung from the upper base instead of being supported from beneath. This insures absolutely perfect alignment and allows bearings to be taken up quickly and easily. This design is recommended by leading authorities of the engineering profession. All the noted automobile designers of the world have adopted it.

The new Sterling engines complete a practical and efficient line for 1913 and cover all marine purposes. Ratings of all motors are conservative. In each instance they will develop greater power than that specified. They are built and thoroughly tested in one of the most complete and modern factories in the world devoted solely to the manufacture of gasoline marine engines. This plant has been doubled in size and equipped with the latest automatic speed devices.

In addition, there is the little "Sterling Kid" engine, 10 h.p., 4 cylinders,  $2\frac{3}{4}$ " bore,  $4\frac{1}{2}$ " stroke, designed especially for high-class yacht tenders, small auxiliary power and small runabouts. It weighs only 215 pounds and develops its power at 1,000 r.p.m. This motor is a decided contrast to the mighty 8-cylinder, 150-180-h.p. racing engine which accomplished so much in last season's races.

The new Sterling catalog containing a complete line of photographs of all the country's notable boats of the season will be sent free to anyone on request.



Intake side of the four-cylinder, medium-duty and speed engine just placed on the market by the Sterling Engine Company.



# The Watkins Canoe Motor.

A Two-Cycle Line of Three Models Consisting of One, Two and Four Cylinders, Suitable for All Classes of Light-Weight Service.

THE development and perfection of a light-weight two-cycle motor suitable for use in canoes and dinghies has attracted the attention of engineers throughout the country for some time past and it is only within the last few years that their efforts have been rewarded with a type of motor that the average inexperienced motor boatman would pass upon as being satisfactory for his requirements. One of the very few companies who have a satisfactory motor of this type on the market for 1913 is the Watkins Motor Company, of Cincinnati, Ohio. The result of their many years of experiments and long experience have enabled them to turn out a product which is most suitable for these uses from every standpoint.

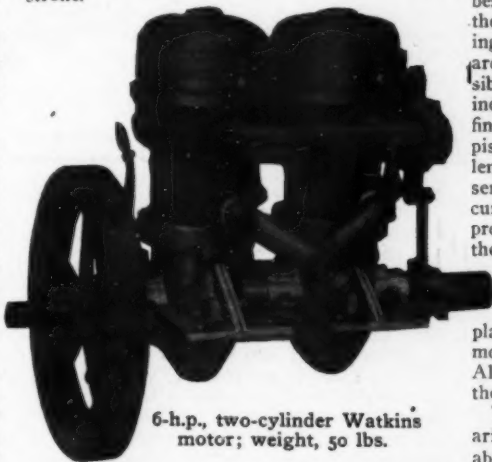
The Watkins motor line consists of three models, the 3-h.p. single-cylinder size weighing 30 lbs., a 6-h.p. double-cylinder motor weighing 40 lbs., and a 12-h.p. four-cylinder motor weighing 100 lbs.

In construction and design, no pains have been spared to turn out the best product possible. No useful parts have been omitted and no useless parts retained, and it may be well said that their motors meet every condition. Their small 3-h.p. motor has been installed in the 22-foot fishing boats which go out in the roughest of weather. The motor, being so small and compact, is placed within 12 inches of the transom under the rear seat and out of the weather.

Instead of casting the water-jacket on the cylinder, a water-jacket of spun copper is used. This permits of ample cooling efficiency to keep the motor at the proper temperature; is of ample strength to withstand any ordinary

strain, and, at the same time, adds to the general appearance of the motor. The crank shaft is 1 inch in diameter, made from the best quality of drop-forged steel, turned perfectly true and filleted at all corners.

The main crank bearings are  $2\frac{3}{4}$  inches long and are made of the very best quality of phosphor bronze, from which material the connecting rod is also made, the latter having a split box on the crank end which allows for easy taking up of any wear or a loss motion. The jump spark system of ignition is used, and to start it is simply necessary to place the speed lever in a position that will cause the spark to take place when the piston is at the top of the stroke.



6-h.p., two-cylinder Watkins motor; weight, 50 lbs.

The water-circulating pump is of the plunger type and constructed of brass, being placed on the motor in such a position that it is easily accessible. The carburetor is of special design and the proportionate areas have been developed so thoroughly and such exhaustive and severe tests made that perfect control is obtained at all times. Running at full speed, there is practically no vibration and the gasoline consumption is very small.

Watkins motors are all of the three port two cycle type, the ports being so arranged as to permit of high speed. The bore of the cylinder is three inches and the stroke three inches.

The base or crank case is made of the very best grade of aluminum and so arranged that the cylinder is clamped to the same, there being about 15 inches of clamping surface all around. By this clamping method it is impossible for the cylinder to work loose. The cylinder itself is made of a specially hard and fine grain cast iron, insuring long life. The piston is made of a similar material and of a length that long experience has proven most serviceable. These pistons are packed by accurately ground snap rings and are fitted with proper grooves for distributing oil evenly over the entire wearing surface.

The Watkins Shops are equipped with machinery and appliances of the most modern type. By means of special gigs, templates and tools, each part of every Watkins motor is an exact duplicate of its counter-part. All parts which go to make up the motors are therefore absolutely interchangeable.

This makes it possible, should the occasion arise for the replacement of any part, to be absolutely sure that the new part will fit.

# The Leary Twin Port Engine.

A Two-Cycle Type with Excellent Speed Control and Minus the Backfiring Qualities.

THE Leary twin port engine, manufactured by the Leary Gasoline Engine Company, of Rochester, N. Y., is now in its third season and the manner in which it has met all the demands made upon it have proven conclusively that it is equal to any service.

This motor is the result of 18 years of experience and, being of the twin port type, the most perfect control is claimed. The carburetors once set require no further attention, one lever automatically controlling both carburetors and timer so that when the engine is running at its highest speed the lever may be thrown to the slowest speed notch without the engine backfiring. Very slow speed is then obtained with even explosions.

Every feature of the motor shows careful thought and has been built with the most painstaking care throughout. The non-backfiring discs do away with that most objectionable feature in the two-cycle motor and the mixture correctors save one-third on fuel. It is claimed that distillate can be used with satisfactory results without making the slightest change in the motor, for heat from the annular exhaust chamber radiates down into the intake casting which, in conjunction with the mixture correctors, converts the distillate into a fine explosive mixture.

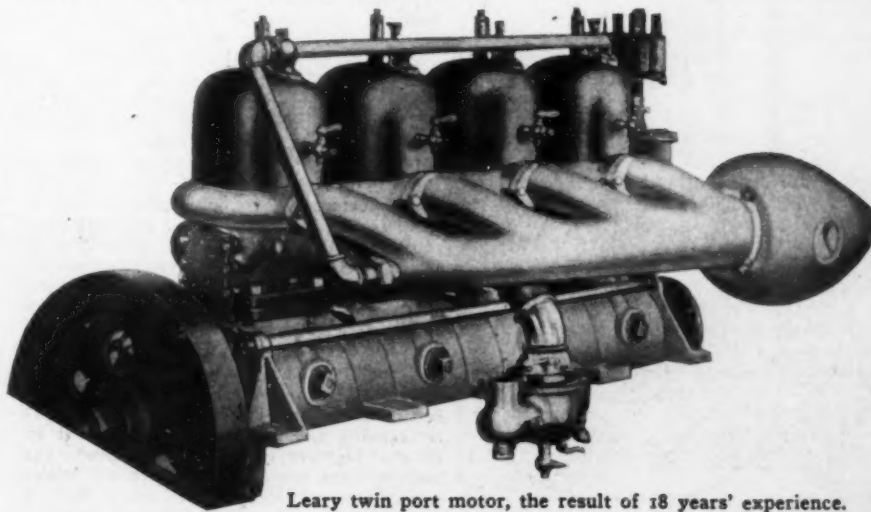
The exhaust gases leave the cylinder through four passages equally divided around the cylinder and enter an annular chamber leading to the expansion chamber. The bearings are die cast, interchangeable and made of the finest metal. The strong tubular crank case accounts in part for the bearings of the Leary motor not cutting, for the strength and rigidity prevent the shaft from bending to conform to every irregularity in the foundation. Fine compression is found on every engine and the arms of

the crank throws are fitted with counter-balance discs that nearly fill the crank case and give a crank case compression of about 7 pounds.

The oiling system is that of mixing the oil with the gasoline which has proved satisfactory for several years past. The Atwater Kent unisarker and coil are used, making it possible to start the multi-cylinder engines on the switch. Each Leary motor is sold complete with two Schebler carburetors, Baldridge reverse gear, salt-water fittings, propeller, batteries, etc.

The Leary motor is the result of John J. Leary's long experience in connection with the

manufacture of gasoline motors. He has devoted his undivided attention during the period of 18 years to the designing and manufacture of two cycle motors and the designing of semi-speed hulls. He has on this twin port two cycle motor accomplished many things in a most skillful manner which have not been done in the design of many two cycle motors now on the market. Mr. Leary, in his 18 years of study and experimenting, has tried out dozens of methods for obtaining high power and perfect control, but in no other manner has he been able to accomplish these as effectively as with the twin port system, and his backfiring devices solve another objectionable feature.



Leary twin port motor, the result of 18 years' experience.

# The DeLong 10 H. P. Motor.

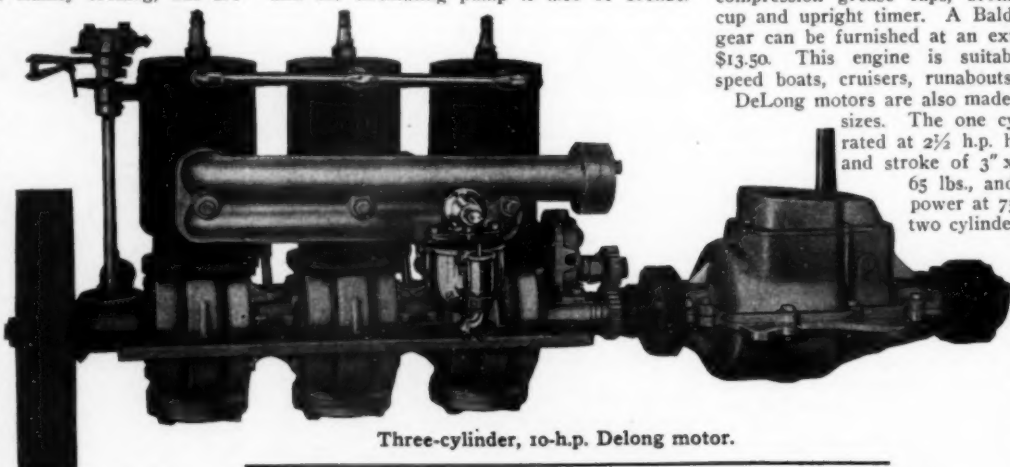
**D**ELONG motors represent a high development in the art of designing and building two cycle engines. They are not big, heavy and clumsy looking, but are light weight, finely constructed and beautifully finished.

The three cylinder DeLong motor develops 10 h.p. at 750 r.p.m. and sells for \$175. It has a bore and stroke of 3" x 3 1/4" and weighs complete, 150 lbs. Material used in the construction of this engine is the very best to be had. Every part is standardized and absolutely interchangeable. The pistons have an

extra length to insure long life and the crank shafts are of high grade steel, heat treated. The bearings are of genuine motor babbitt and bronze and the circulating pump is also of bronze.

The equipment of the three cylinder engine consists of a three cylinder box spark coil, spark plugs, carbureter, shaft coupling, compression grease cups, bronze circulating cup and upright timer. A Baldridge reverse gear can be furnished at an extra charge of \$13.50. This engine is suitable for small speed boats, cruisers, runabouts, etc.

DeLong motors are also made in two other sizes. The one cylinder model rated at 2 1/2 h.p. having a bore and stroke of 3" x 3 1/4", weighs 65 lbs., and develops its power at 750 r.p.m. The two cylinder model, having a similar bore and stroke, is rated at 5 h.p. at 750 r.p.m. This model weighs 90 lbs. complete with full equipment to run.



Three-cylinder, 10-h.p. DeLong motor.

## A Slide Valve Marine Engine.

**I**N THE accompanying drawing is shown a sectional view of a four cycle marine motor, having a new slide valve system in place of the customary poppet valve which has recently been brought out by Mr. A. E. Osborn of New York City. A particularly important feature of this valve mechanism in connection with marine work where the engine is enclosed in the cabin is its silence and also on account of the large positively timed port openings there is much less friction in this mechanism than with the usual cam motion and springs. The valve piston will also generate a small amount of power in itself which adds to the power of the motor.

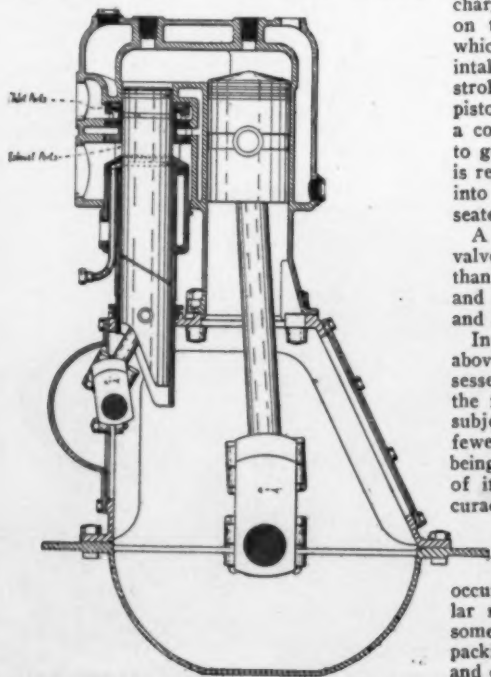
From the drawing it will be seen that a single valve piston is employed for controlling both the intake and exhaust ports and this piston is arranged in the small cylinder at the side of the main engine and opening into the top of the combustion chamber. The valve cylinder is provided with an annular port completely surrounding the cylinder and communicating with the inlet pipe. A lower

annular port opens directly into the exhaust chamber. The pistons when in the position shown are at the upper end of the compression stroke. The upper or inlet ports are uncovered during the descent of the valve pistons before the exhaust port is opened. A V-section suction operated ring valve as shown in the drawing, is used to prevent the expanding gases passing into the inlet chamber and pipe. In order to get this ring valve in place the lower part of the valve cylinder is made removable and is held in position by a stud and nut at each side. It is cooled by the fresh intake gases as well as thoroughly protected from carbon by the valve piston.

The spark plug is located above the valve piston. As the explosion forces the main piston down the timing gear and valve shaft revolve, moving the valve piston downward which after the main piston is about half way down, uncovers the inlet port and when the main piston is near the bottom center opens the exhaust port. This port, of course, remains open during the exhaust upward stroke but is closed just as the piston starts to descend on the next stroke. The vacuum now created above the main piston raises the ring valve and allows the admission of a fresh charge. When the main piston starts upward on the compression stroke the valve piston which has been traveling upward, closes the intake port so that during the compression stroke, both ports are shut off by the valve piston. The ring valve has the time of nearly a complete revolution of the motor in which to get down on its seat and a very small lift is required to get the necessary amount of gas into the cylinder and it can easily become seated before the inlet port opens.

A special oil connection is provided for the valve piston. This motor contains fewer parts than many others with the slide valve system and is consequently cheaper to manufacture and less liable to get out of order.

In addition to the advantages mentioned above it is claimed that this valve also possesses features of cooling easier (owing to the fresh intake gases passing over the parts subject to the greatest heat), of containing fewer parts than other slide valve systems, of being cheaper to manufacture, not only because of its few parts, but also because great accuracy of workmanship with close fits (likely to seize) are not needed to maintain tightness as regular piston rings are used at the only points where leakage could occur, eliminating the objectionable irregular running and lack of power exhibited by some slide valve engines at low speeds (as packing rings are always between the intake and exhaust port and leakage between them is prevented), and of needing absolutely no valve grinding or adjustments or other attention.



Four cycle piston valve motor invented by A. E. Osborn.

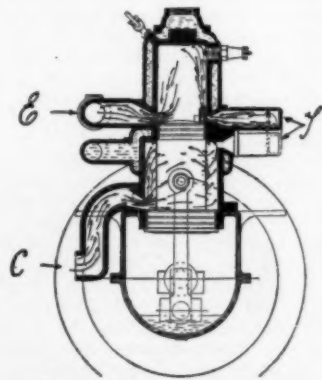
## Superior Two Cycle Motors.

**T**HE Superior Motor Company, of Detroit, Mich., manufacturing under the Fraser-Brimmer patent, have just placed upon the market a two cylinder, two cycle motor of 3 1/2" bore and 4 1/4" stroke. This motor is of the compression cylinder type, one cylinder being used for compressing the gases and the other for the explosion.

The high vacuum present above the piston causes a rush of gas from the carbureter which completely fills the large diameter compression cylinder when the piston is near the bottom of the stroke. As the piston moves slightly upward the inlet port is closed and the charge slightly compressed, whereupon it is transferred through the cross-over pipe to the working part of the adjacent cylinder.

The advantages claimed for this motor are high volumetric efficiency at all speeds on account of the large ports. A minimum of side thrust between the piston and the cylinder walls, absence of valves, springs, etc., and the elimination of crank case compression.

On the very thorough test which has been recently completed by the Superior Motor Company, it has been found that the engine would operate very satisfactorily on the mixture of half gasoline and one-half kerosene, the gasoline testing at .740 and the kerosene at .807 specific gravity. Pure kerosene of the above density was tried and worked as satisfactorily as the gasoline and kerosene mixed. Next mixtures of kerosene and lubricating oil were tried in proportions of one part of lubricating oil to three and seven parts of kerosene. These all work satisfactorily but the mixture with the greatest amount of lubricating oil would have eventually fouled the engine.



Section of the new Superior motor.



# From Motor Boating Readers

A Department for the Exchange of Ideas and the Discussion of Questions of General Interest.  
Editorial Opinion on a Number of Questions Submitted by Readers of the Magazine.

*MoToR Boating's columns are open to its readers, not only for asking questions, but for placing before them other readers' ideas, results of experience, opinions, etc., that should be interesting or helpful to them; but the editor will not, of course, be responsible for any opinions expressed or statements made in such communications. The name and address of the writer must necessarily be given in every case to make an answer by mail possible (no anonymous contributions will be considered for publication), but names will be omitted in publishing the letters and answers where desired, in which case it is desirable that initials or other distinguishing signature be appended. Through the correspondence department readers of the magazine may be of direct aid to one another in solving the problems of motor boating.*

## Side Planes to Increase Speed.

To the Editor of MoToR Boating, Sir:

I have a hull 26' long by 4' 6" beam that I built myself and in which I installed a 20 h.p. automobile motor. I use a 16" wheel 22" pitch and the engine turns up about 900 or 1000 r.p.m. without any strain on engine. I placed the engine too far forward. When I am running at full speed the bow plows through the water instead of over it as it should. The hull draws about 4" at bow, about 8" under engine, while at the stern she doesn't draw any. That's with one or two people in the front seat; if I carry four or six people she rides the water just right and the bow comes up as it should. I read in your June number of MoToR Boating where some of the boats at Monaco used bilge fins successfully. Do you think they would help my case any? I have gotten better than 16 miles with this engine as she is and don't want to move it unless I have to. Everything is placed in the hull just as I want it and I have things arranged to give plenty of seating capacity. The only drawback is that I can't ride any waves, not even little wind waves as the bow throws a spray all over the hull. If you think the fins will help me any please tell me how long to make them, whether to let them extend above the waterline, how wide to make them, how to fasten them to hull and keel, where to place on hull, that is how far from bow and what material to make them from.

J. H. V., Charleston, W. Va.

[We would not advise these if you desire to get more speed, as they are only of benefit to very light boats, making in the vicinity of 30 miles an hour and even then any benefit is doubtful. However, these are used to considerable extent to throw the spray away from the boat which, if used in connection with your craft, we believe would make her a decidedly more comfortable boat. The correct position of these will have to be ascertained from observation by yourself as they should be placed near the waterline in such a position as to throw the spray outward. They are generally made about 3 or 4 inches wide and 4' long having a slight upward inclination (1" in 4') toward the bow, and generally made of stiff brass turned over at the inner edge and fastened to the hull by means of screws.

We have also seen these spray boards placed up at the sheer line, in which case they would have to be made considerably wider than if placed at the waterline.]

## Motor Will Not Start.

To the Editor of MoToR Boating, Sir:

As a subscriber I would like to have your assistance in regard to a 3" x 3 3/4" four cylinder motor two cycle. I purchased a 1 3/4" carburetor and have not been able to get one explosion. I have a 1 3/4" manifold. The motor runs with an old one inch carburetor, but no speed. I was advised to get the 1 3/4" carburetor for speed. Can you tell me where my trouble is?

Dayton, O.

S. C.

[It is rather hard for us, with the data you have given us to diagnose the trouble with your

four cylinder motor. The size of the carburetor should have little to do with being able to start the motor, although it may have considerable to do with getting the most power out of your motor. On the other hand, we do not believe that the importance of using the correct size of carburetor should receive as much attention as one generally gives it, as the size of the valves, weight of the moving parts, etc., are fully as important as the size of the carburetor. If the valves are of the wrong dimensions, then no change in the carburetor size will help this very materially, nor can you expect more power by increasing the size of the latter. However, we would advise you to look elsewhere for the cause of your trouble, such as having a good hot spark, proper mixture, absence of flooding, carburetor open, piston rings that are not worn, gummed or rusted, right adjustment to the coil, if of the jump spark type, and be sure that your exhaust line is clear and the muffler not rusted, to obstruct the passage of the exhaust gases. Oftentimes good results can be obtained by pouring a little cylinder oil through the pet cocks and working the pistons up and down a few times to thoroughly spread the oil over the cylinder walls. This will help the compression considerably and should assist you in starting, especially when priming. If you have not a clutch try to run the motor free with a propeller shaft uncoupled and be sure that the needle valve is not open too far to cause flooding.

## Route to Lake George.

To the Editor of MoToR Boating, Sir:

Kindly give me all the information on the following subjects that you can. What is the name of the canal that runs from the Hudson River into Lake Champlain, and does the canal start from Albany or Troy? Where can a permit be procured to go through this canal? Is there a canal from the Hudson River to Lake George and if so does the canal start from Albany or Troy and what is the name of the canal? Is there a canal from Lake George to Lake Champlain and what is the name of the canal? Must permits be procured to go through all these canals? What is the speed limit on these canals for a motor boat 19 ft. long, 4 ft. beam, drawing 2 ft. of water; speed of boat 25 miles per hour? Where can I procure a chart of the Hudson River from New York to Troy? Where can I procure a chart of Lake Champlain?

New York City.

J. R. S.

[The canal that runs from the Hudson River to Lake Champlain is known as the Champlain Canal. It runs from Troy at the head of navigation on the Hudson River to Whitehall, the southern extremity of Lake Champlain, a distance of something like 70 miles. A permit to navigate on this canal is obtained from the Department of Public Works, Albany, N. Y., either upon written application or by a personal call, there being no charge for this permit.

There is no canal from the Hudson River to Lake George. In fact there is no means of entering Lake George without carrying the boat over land for a short distance. The nearest water entrance is from the head of

Ticonderoga Creek, which is some 20 miles north of Whitehall on Lake Champlain. There a carry of about 3 miles is necessary, to the northern end of Lake George. Lake George may be also entered by carrying over land from Glens Falls on the Champlain Canal to the town of Lake George, which is at the southern extremity of the lake. This carry is considerably longer than the one at the northern end of the lake. There is a speed limit of about 4 miles an hour in force on these canals.

Charts of the Hudson River from New York to Troy may be obtained from the Department of Commerce and Labor, Coast and Geodetic Survey, Washington, D. C., as may also be obtained charts of Lake Champlain.]

## Propeller and Electrical Equipment.

To the Editor of MoToR Boating, Sir:

Will you be kind enough to give us your opinion on the following: Our boat is an open launch, semi-speed hull, 24' 5" long, 5' 2" beam, with a 2-cylinder, 2-cycle marine engine of 8 h.p. at 450 r.p.m. We have made 750 r.p.m. We have a 16" three blade propeller, 22.6" pitch. Would an 18" 2 blade or an 18" 3 blade increase our speed, or would a smaller propeller be better? Our shaft log is about 4 ft. forward of the end of stern and the propeller close to the shaft log, or would it be better still further aft? The engine is placed pretty far forward and it seems that our bow ought to be higher out of the water. The boat is on a very even keel and when throwing in clutch the bow does not rise, nor does the stern sink. Would we gain by putting ballast in the stern or would you advise moving the engine further aft? We are thinking of putting in a magneto for our spark and also for lighting search light and running and tail lights. Can you give us some idea as to price and also as to space occupied by a suitable jump spark magneto? Also, is there some way of charging batteries so that we would have light when engine is not running? Is it possible to avoid all vibrations of an (unopposed crank) counter balanced engine? Can you give us some idea as to cost per foot of seat cushions?

Milwaukee, Wis.

A. E. B.

[From your statements we should judge that your motor was designed to attain its power at 450 r.p.m. If this be the case, we believe that you are using a wheel entirely too small, both as regards diameter and pitch, to obtain maximum speed. We would advise one of three blades 19 inches in diameter by 28 inches pitch or one of two blades 20 inches in diameter by 28 inches pitch. The latter wheel should give you more speed, but the former a smoother running outfit. As to the position of your wheel, we believe that this is now about right and that no material benefit would be obtained by a change in its position.

As to the fact that your boat does not rise in the bow or squat at the stern when coming up to speed, this is not a bad feature at all and we would not advise any ballast whatsoever, unless you believe your boat is now down by the head, which causes her to plow through

the water. From your letter we are not able to say whether this is the case or not, but if it is considerable, ballast in the stern should greatly help her speed.

## Exhaust Installation.

To the Editor of MoToR BoatinG, Sir:

My 21-h.p. 3-cyl. 2-cycle motor is to be placed under the bridge deck of my 30-foot launch, so that I must exhaust out the side of the boat. Shall I exhaust above or below the normal water line? Is a flexible coupling necessary between the engine and outlet? If so, how is it best installed? Is it not a good plan to turn in all the circulating water if the exhaust is piped to drain well? Will the action of the waves cause the motor to run irregularly? Will the odor of the exhaust be troublesome in the cockpit? I propose to equip this engine, whose normal speed is 900, with a three-blade propeller which it will turn at this speed as a maximum, but propose to throttle down to a normal operating r.p.m. of about 600, giving about 15 h.p., which drives the boat satisfactorily. Will the propeller be operating efficiently? Will the consumption of gasoline be in proportion to speed? Will there be proportionately less wear on the engine and a longer life to the cylinders and bearings? Are there any objections to the plan? Does fuel lubrication decrease the efficiency of the gasoline? If, in a new engine, approximately 200 miles of running are required to wear the bearings to a fit (connecting rod), about how many miles of service will be given before adjustments are necessary?

W. K. B., Wood's Hole, Mass.

[It is not quite clear in our mind whether it is absolutely necessary for you to bring your exhaust line out through the side of your boat, as the statement in the first paragraph of your letter is ambiguous. We know of many installations, similar to yours, where the engine is under the bridge deck of a boat, not differing materially in size from yours, where the exhaust is led aft under the cockpit floor or sometimes under the cabin floor, if there happens to be an after cabin, in a very satisfactory manner. Exhausts out of the side, while used to considerable extent, are not, in our minds, nearly as satisfactory as the exhaust through the stern, so we would advise, if it is possible, that you change your plans with this end in view. If you have to exhaust out of the side of the boat it is probably better to do so above rather than below the waterline, as the best place for an under-water exhaust is at the quarter, so you will see with the stern exhaust it will be feasible to bring it out either above or below the normal waterline. However, if the latter scheme is used, it should be brought out only a very few inches below the waterline when the boat is under way and should have an expansion chamber between the engine and the outlet, unless diameter of the exhaust line is exceptionally large. By using the large expansion chamber between the engine and the outlet a satisfactory side under-water exhaust may also be arranged.]

It is not necessary to provide a flexible coupling between the engine and the outlet, provided the engine bed is correctly constructed and the engine well balanced to reduce vibration to a minimum.

Many of the installations turn all of the circulating water into the exhaust line, although this tends to reduce the speed considerably if much more water than will readily vaporize is employed. The correct amount can easily be obtained by fitting a Globe valve between the outboard and exhaust connections of the circulating waterline.

Normally, the action of the waves will not cause the motor to run irregularly, provided the whole plant has been correctly installed. However, some racing might occur especially in a following sea when the waves are exceptionally large, but this condition is the exception rather than the rule and should cause no trouble.

The odor from the exhaust may be somewhat disagreeable in the cockpit with a side

exhaust, when the wind is in the right direction, but this again is the exception rather than the rule. The worst will probably be when the amount of water admitted to the exhaust line is such as to form a cloud of steam, which is blown back and condenses all over the cockpit and its occupants, but a little care and thought given to this matter should rectify all evils.

We believe you are making a great mistake in equipping a cruiser, provided yours is of the average proportions, with an engine whose normal speed is 900 revolutions. Your method of getting around this by throttling down to about 600 will work out fairly satisfactorily, but is only a makeshift at its best, if you care anything about getting the highest efficiency out of your whole plant. To be sure, the consumption of gasoline will be somewhat in proportion with the speed of the engine and there will also be proportionately less wear on the engine and a longer life to the cylinders and bearings, but these latter points are not in direct proportion to the loss in power and efficiency. There are many engines on the market much more suited for your boat, we believe, than the one you have chosen.

Lubricating oil, added to the gasoline, does decrease somewhat the revolutions and power obtainable from a given engine, but we believe the many advantages gained therein considerably outweigh any of these losses.

It is impossible to give an answer to your fourth question that would be of any value whatsoever. For example, some engines which you say require approximately 200 miles of running before the bearings are broken in will, in another 200 miles or less of running, require an adjustment. While, on the other hand, there are many motors which may be operated continuously for four seasons without even making a single adjustment to the bearings and they are in as good condition now as ever.]

## Gearing Motor to Propeller Shaft.

To the Editor of MoToR BoatinG, Sir:

I am building a 20 ft. hydroplane and I am trying to figure on how I can get my engine in the back of my boat. I see on Baby Reliance II they have the engine in the back of the boat. I have an idea that this engine is put in backwards and the shaft is run up in the bow where it is geared or fixed with sprockets and chain, but I wish you would let me know if I am going at this right and if I am not, I wish you would let me know how it is done and if they gear them, which way would be the best. I am anxious to find out if I can. My boat is 20 ft. long, 4 ft. 6 in. beam and I am putting in a 30 h.p. light weight engine 1200 r.p.m. Please state what kind of gears I have to use and where I can get them.

Elgin, Ill.

F. A. F.

[You are right in your conclusions about the manner in which the engine was placed in the Baby Reliances, but we can see no advantages in following this installation in your boat where the power is less than one-fifth of that used in Baby Reliance II. Practically the only advantage to be gained by placing the engine aft and gearing it to the propeller shaft is that it allows the latter to be turned at a faster rate than if connected direct, thus requiring a smaller diameter propeller, which is a necessity in high speed boats with high powered engines, as there would not be room enough at the stern to swing the proper diameter wheel with the engine connected direct. Of course, the position of the engine in the hull has a great influence also when dealing with 1500 or 2000 lbs. in a 20 ft. hull, but in your case this consideration can be almost neglected as the position of the crew will balance the weight of the engine.]

If you will refer to the January issue of MoToR BoatinG, you will see described several methods of connecting the engine and propeller shaft together when they are not on the same shaft.]

## Size of Pipe Fittings.

To the Editor of MoToR BoatinG, Sir:

As an interested subscriber to your magazine, I would be glad to receive suggestions for pipe fitting. I am fitting out a boat and find difficulty in selecting piping with right kind of thread, diameter, etc. Does a certain pipe dimension mean the diameter of the whole pipe?

Brooklyn, N. Y.

NOVICE.

Below we give the dimensions of standard wrought-iron pipe:

Inside Diameter, Inches.	Actual Outside Diameter, Inches.	Thickness, Inches.	Actual Inside Diameter, Inches.	No. Threads Per Inch of Screw.
3/4	.405	.068	.270	27
1	.540	.088	.364	18
1 1/4	.675	.091	.494	18
1 1/2	.840	.109	.623	14
2	1.050	.113	.824	14
2 1/2	1.315	.134	1.048	11 1/2
3	1.660	.140	1.380	11 1/2
3 1/2	1.900	.145	1.611	11 1/2
4	2.375	.154	2.067	11 1/2
4 1/2	2.875	.204	2.468	8
5	3.500	.217	3.067	8

## Power of the Motor.

To the Editor of MoToR BoatinG, Sir:

Below you will find a question which has been puzzling me for some time and for which I should be much obliged to receive an answer through the column of your magazine. What is the ratio of actual horsepower to the bore, the stroke remaining the same? 2. To the stroke, the bore remaining the same, and how far does the stroke actually affect the real horsepower of a motor?

New Haven, Conn.

M. E. L.

[With the stroke and revolutions remaining constant the power of the motor will vary as the square of the bore or directly as the area of the piston. For example, an engine with a bore of 6 inches should develop four times as much as that developed by an engine with a bore of 3 inches, other things being constant.]

With the bore and revolutions remaining constant, the power will vary directly as the length of the stroke, that is an engine with 8-inch stroke should develop twice as much as an engine with a 4-inch stroke. Of course, you realize that for the above statements to be true, all moving parts, ports, etc., must be correctly designed for the particular values of bore and stroke.

As to how far the stroke actually effects the real horsepower of the motor is really answered by the above paragraph. However, it would not hold beyond certain limits. That which determines the most economical stroke is the piston speed ( $2 \times \text{r.p.m.} \times \text{stroke}$ ), as there is a certain correct value for this which must be determined in the design of every motor.]

## Twin Screw Installations.

To the Editor of MoToR BoatinG, Sir:

We are interested in changing a steamer with 22 ft. beam, 105 ft. keel, draft 5 ft. from a side wheeler to a twin screw—and for best results, speed, and handling would like to know if the propellers should turn to the outside, that is, the port propeller turned to port and starboard propeller to starboard, or should they turn to the opposite; that is, the port propeller turned to the starboard and starboard to the port.

Carrabelle, Fla.

G. T. C.

[Whether the propellers of a twin screw installation should turn inboard or outboard, this is a question over which many heated discussions have taken place and many costly experiments tried by the government, with the result that at the end they were exactly where they started. Everything seemed to indicate that there were as many points in favor of one as the other, from a speed standpoint. One thing is certain, however, that the maneuvering qualities of the boat will be a great deal better if the tops of the wheels turn outboard, than they would if they turned inboard. It is common practice on most motor boat installations to have the wheels turn outboard, probably for this very reason.]



# New Things for Motor Boatmen

## The Underwriter Valve.

The Underwriter Valve Company, of Providence, R. I., manufacture the Underwriter Valve, which is designed to be placed in the gasoline line, either at the carburetor or at the tank, or at both points. The valve, which is made of brass and copper throughout, is normally open, and is held against closing by the fusible link shown at the top of the valve. These links are a standard article, used in many other forms of fire protection devices, and are designed to melt at a temperature of 155 deg. Fahr.; in fact, the link is so sensitive that it can be fused by the flame from an ordinary match. Should fire break out, the resulting flame or heat melts the link before the fire can make much headway. The moment this occurs, a stiff spring, concealed in and protected by, the body of the device immediately closes the valve, shutting off all further flow of gasoline, while the remaining fire can usually be promptly extinguished. This fusible link, while open to the action of fire or heat, is well protected from external injury. There is no stuffing-box or gland to leak, the movement of the valve being controlled through a corrugated metal diaphragm. Should the link be melted from any cause, the valve can be put in use again in a few minutes by a piece of wire or even string to replace the link, but, of course, without the safety feature, and the makers will furnish new links for 10c each at any time. The insurance companies have given the valve their full endorsement. The valve sells for \$5.00.

## The Eaton Silencer.

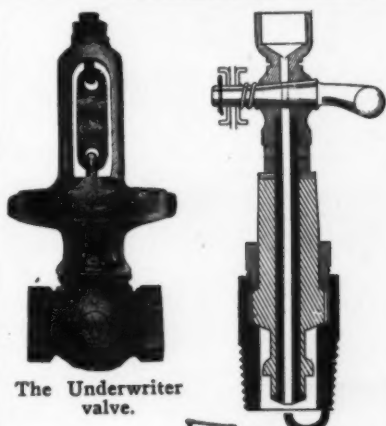
The Eaton silencer is constructed in such a way as to cause the gas to oscillate right and left through the blades and to collide through the holes, the result, it is claimed, being a silent exhaust without back pressure. Best quality grey iron is used for castings and the silencer may be used without water, although this is not recommended. To install the Eaton is a comparatively simple matter and its price ranges from \$8 to \$19, according to size. Extra blades and parts may be obtained at a small cost. The manufacturers are Eaton & Wilson, of New London, Conn.

## A Non-Explosive Can.

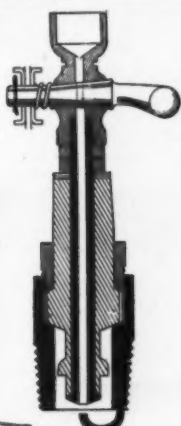
The McNutt Non-Explosive Can Co., of New York, specialize in garage cans fitted with a small safety device, which is so constructed that if there should be any unusual heat in the neighborhood of the can, the valve will not only release the excess internal pressure, but will cause a whistling sound as a warning. The seat of this valve is made of fusible steel so that in case of fire it will melt and be blown out of the can or tank. The device costs \$2.



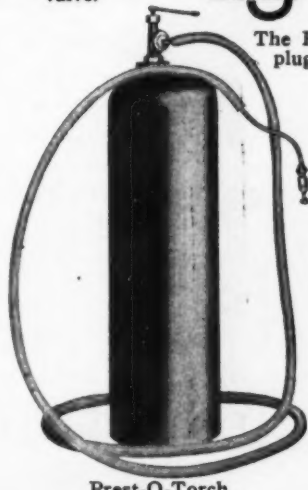
McNutt non-explosive can.



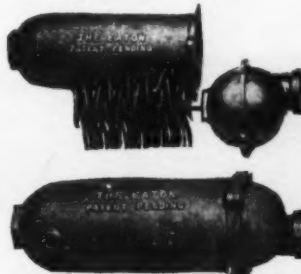
The Underwriter valve.



The Heco plug.



Prest-O-Torch.



The Eaton silencer.

## The Heco Priming Spark Plug.

The Heco plug is designed with a cup head, which is intended as a gasoline receptacle. By pouring a little gasoline into this, having previously turned on the tap, the unpleasant job of starting up in cold weather is greatly facilitated, as the gasoline in passing through the plug, runs all around the sparking points, cleaning away any accumulation of carbon, and leaving a rich mixture right at the firing points.

The Heco costs \$1.00 each, and is guaranteed by the manufacturers, the Heinze Electric Co., of Lowell, Mass.

## The Prest-O-Torch.

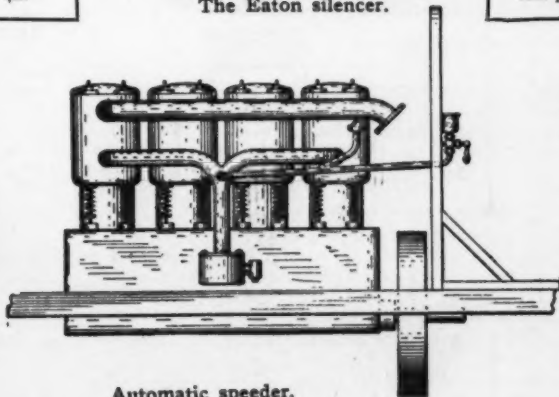
This little device is intended to be used for soldering and brazing, in conjunction with any type of Prest-O-Lite tanks. Each torch has a volume sufficient for brazing up to 3/4-inch steel rods, but larger work may be handled by playing two or three torches on the same point. As the torch itself measures only 3/4 by 2 inches, it is of handy size for small jobs in more or less inaccessible positions. It may be coupled close to the tanks or connected up with rubber tubing, which costs 10c per foot. It is particularly adapted for burning lead in storage batteries and costs 75c with two stem connections. The makers are the Prest-O-Lite Company, of Indianapolis, Ind.

## The Automatic Speeder and Primer.

This is a device which might be termed an engine governor, as it is designed to automatically open when the motor attains a certain speed and to close as the engine speed reduces. The makers assert that its use saves a large percentage in gasoline; that it adds appreciably to the power of the engine, and, further, that carbon troubles may be completely eliminated by feeding a small amount of coal oil through the primer while the motor is running. The speeder can be fitted to any motor, and costs \$5.00. It is made by the Motor Speeder Sales Company, of Toledo, Ohio.

## Flexible Metal Hose.

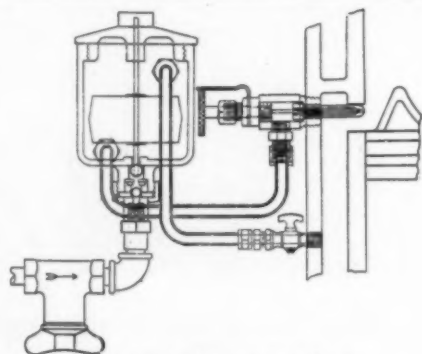
The Breeze Carburetor Co., of Newark, N. J., are manufacturers of various kinds of flexible metal hose. The semi-locked type is suitable for lighter pressure, such as air or oil or for electric wire covering and speaking tubes and a stronger gauge of weather-proof covering is suitable for heavier work. A special hose is made for gasoline. This is designed to stand 200 lbs. pressure and is guaranteed against leakage.



Automatic speeder.



Breeze Co.'s flexible hose.



Bessemer balanced fuel feed.

### Bessemer Balanced Fuel Feed.

The J. W. Lathrop Co., of Mystic, Conn., have placed a device known as the Bessemer balanced fuel feed, the use of which, it is claimed, enables an engine to be run perfectly on kerosene, gasoline or naphtha. It may be fitted to Lathrop or any other correctly-designed two-cycle engines, and it is stated that tests have shown that a boat can be driven about 20% farther on kerosene with this device than on gasoline used with a carburetor, while carbon deposits are less than before. Our illustrations show an engine with fuel feed fitted and also sectional view. The cost of the outfit is \$20, or, with auxiliary float chamber, \$5 extra.

\* \* \*

### The Detroit Heater.

The Detroit heater, although primarily designed for automobile use, is considered by its manufacturers to be specially suited for keeping cruiser cabins at a comfortable temperature during spring or fall weather. This heater differs somewhat from others of the exhaust-operated type, owing to the fact that the gases pass through the muffler, whether used or not, flexible steel tubing being used to conduct them from the exhaust line to the heater. The latter consists of an outer tube of wire mesh, which acts as a radiator and incloses an inner tube of corrugated sheet steel, which is connected up with the exhaust pipe heater valve by two flexible pipes. This valve, which is of butterfly type, allows free passage through the flexible tubing to the heater and from there back through the muffler from the other side of the valve. The outfit costs \$14.50. The manufacturers are the Detroit Auto Heater Co., of Detroit, Mich.

\* \* \*

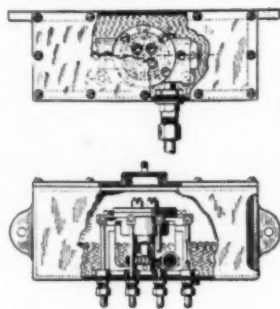
### New Pedersen Mechanical Lubricator.

The Pedersen Lubricator is designed especially for motor boat use. It allows for a wide range of attachment, as it may be connected direct to any rotating shaft, placed either horizontally or vertically in the oil tank, or at a considerable distance, as the pump has strong suction and discharge power. In the face of the casing is a circular recess having openings forming inlet or suction ports. The pump is operated by rotating the shaft which carries the slidable piston which, acting upon the stationary pin, is given a transverse inward movement when opposite the inlet port, drawing in the oil. The manufacturers are the Pedersen Lubricator Company, of New York.

\* \* \*

### Krause Pre-Heater.

The Pre-Heater is an electrical device operated on a 6-volt current from a storage or dry cell battery. It is designed to heat the gasoline in the float chamber of a carburetor almost instantaneously and thereby facilitate starting in cold weather. It is said that recent experiments have proved the Pre-Heater enable an engine to be run satisfactorily on a mixture of gasoline and kerosene. The cost of the device is \$3 and it is made by the Krause Manufacturing Co., of Detroit, Mich.



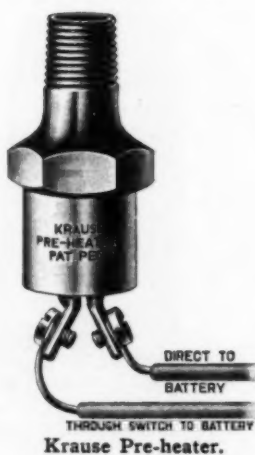
Pedersen lubricator.



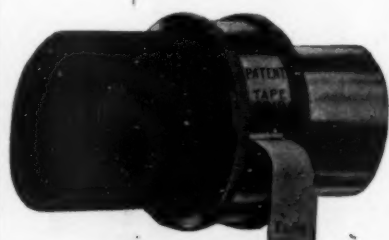
Detroit heater.



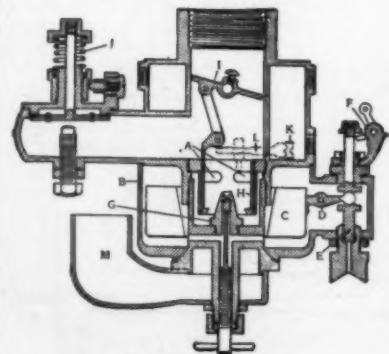
Nicholson coil file.



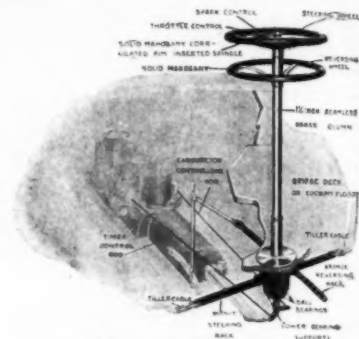
Krause Pre-heater.



Herz tape grip.



Price carburetor.



Reliance unit control.

### Reliance Unit Control.

The new cruiser control manufactured by the Hall-Gibson Co., of Rochester, N. Y., is designed to place the complete control of the boat right at the pilot's finger tips. The upper or pilot wheel actuates the lower rack, running athwartship, which is connected at each end with the steering control. The lower or reversing wheel actuates the upper rack, running fore and aft, which is connected with a link to the reverse gear and the turning of this wheel operates the engine-reversing mechanism. Centrally located within the steering wheel is mounted a nine-inch quadrant with two levers, containing smooth spring drags, which insure the two controlling levers remaining in their positions until they are through the cranks at the lower end of the carburetor and timer. The wheel rims are of solid mahogany, the upper one 18 inches in diameter and the lower 17 inches. The remainder of the outfit is of seamless brass tube and manganese bronze, and all pinions, wheels, etc., are securely keyed. Ball bearings are fitted between the two pinions and cage, to eliminate friction and prolong the life of the gear.

\* \* \*

### The Nicholson Coil File.

The Nicholson File Company, of Providence, R. I., have added a new specialty to their general line of files, already comprising over 3,000 varieties. This is in the form of a coil file, made especially for the purpose of keeping ignition in good shape. Yachtsmen who know the troubles coming from corroded contact points in their coils, vibrators, or spark plugs, will find this little file very useful and convenient, and a welcome addition to the kit. These files cost \$1.50 per dozen, in a box.

\* \* \*

### Cupror.

The L. C. Smith Co., of Bridgeport, Conn., manufacture Cupror, a metal, which, when buffed up, is said to possess the lustre of polished gold, and is consequently suitable for marine usage, such as for motor boat fittings, etc. It is claimed that Cupror will not corrode; can be kept clean and bright with little labor; is not affected by sea water or air, and occasional wiping with a cloth is all that is necessary to maintain its brilliancy. If allowed to become coated with deposit it only needs washing with soap and water. Cupror is sold in ingot castings, forgings, sheet rod and wire, and is highly malleable, having a very high tensile strength, tests showing the rod to have a strength of 93,000 lbs. and the wire, 20 B. & S. gauge, 138,500 lbs. to the square inch. Cupror metal spins and draws readily, having the requisite tenacity or toughness with ductility, and needing neither lacquer nor plating.

\* \* \*

### "Six Little Yankees."

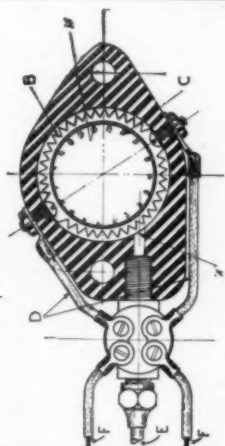
Is the title of a non-liquid preparation designed to remove carbon deposits from engine combustion chambers without the usual scraping. The manufacturers, The Six Little Yankees' Co., of Philadelphia, Pa., say it contains no harmful ingredients, explosive or otherwise. Sufficient for three cleanings of a four-cylinder motor or two cleanings of a "six" packed in a box costs \$2.

\* \* \*

### The Herz Tape Grip.

The Herz tape grip consists of a metal rim





Tate electric vaporizer.

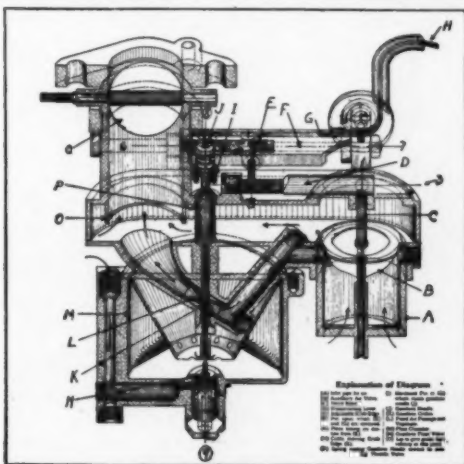
### The Fosnacht Valve Reseater.

This implement consists of a large cutter designed to fit all sizes of 45° valves and five sizes of seat cutters ranging from 1½ to 2¼ inches which are made of tempered carbon steel, the valve cutter having inserted blades which can be readily removed and resharpened. The Foscacht is made by the National Auto Specialty Co., of Tama, Iowa, and is sold at \$30.

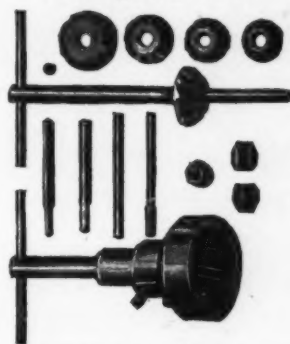
\* \* \*

### An Electric Vaporizer.

The Tate electric vaporizer consists of a small electrical resistance coil which is used to vaporize the gasoline. It is stated that five amperes of current from any ordinary six volt battery is sufficient to fill the intake manifold with a hot gasoline vapor in about six seconds. Gasoline is fed to the heating coil through a small pipe from the carburetor line, the device being put in operation by a switch on the bulkhead, which in turning on the current opens an admission valve controlled by an electric magnet inserted in the heater circuit. The device is being handled by the United Motor Equipment Co., of Chicago, Ill.



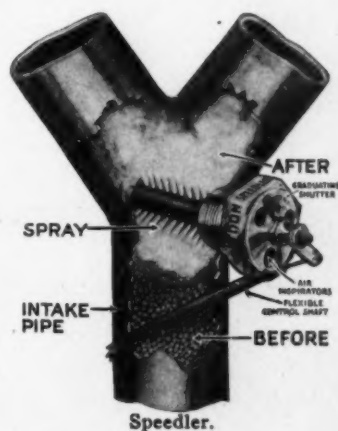
Motsinger carburetor.



Foscacht valve reseater.

### The Motsinger Carburetor

To enumerate the many claims for perfect service made for the new production of the Motsinger Device Manufacturing Co., of LaFayette, Ind., and give the constructional details which effect such service is unfortunately impossible in the space at our disposal. Accordingly it must suffice to say that the Motsinger carburetor has been developed mathematically



Speedler.

and is without adjustments except for change of fuel or extreme weather conditions and this is controlled from the bulkhead. The carburetor is claimed to give a perfect proportional mixture of gasoline and air under all variations of motor conditions, and more mileage out of low grade, cheap gasoline than is obtained from high grade, expensive gasoline. This, of course, is possible if the preceding claim be realized as the lower grade fuels approaching kerosene have a greater number of heat units per pound than higher test gasoline.

### Speedler.

Speedler is a device designed for the purpose of remixing, revaporizing and breaking up the gasoline particles after their passage through the carburetor and to afford a constant correct proportion of air. It is composed of three parts, the controller which is attached to the bulkhead, the sprayer which screws into the manifold, and the flexible connection. The air spray stem of the sprayer should, when fitted, reach as nearly as possible across the current of the mixture. These stems are made in various lengths to insure their fitting different diameters of intake pipe. The "cross-cutting" feature of the spray should be noted as to this is attributed the efficiency of the device, which costs \$5 and is made by the Lydon Mfg. Co., of Chicago, Ill.

## Boats of Stock Design.

### A New Design Nantucket Dory.

THE Lamb Engine Co., of New York, have designed their Nantucket dory with a view to combining the seaworthy qualities for which these boats are so justly famed with such modifications as were necessary to permit the use of an engine without in any way detracting from all around efficiency. The specifications of the Nantucket dory are: length overall, 16 feet; length water line, 14 feet 8 inches; beam 4 feet 8 inches; draft, 16 inches. Timbers are of white oak, 1¼" x 1¼" steam bent, spaced 12 inches on centers extending in one length from gunwale to gunwale. Planking is ¾ inch clear cedar, fastened with best galvanized boat nails to each timber. The keel is 1¼ inch white oak with galvanized bolts and rabbetted to receive planking. Stem and stern are of heavy white oak securely fastened and braced to keel, with natural crook white oak knees. The decks are of selected ¾ inch cypress, laid in 2 inch strips and caulked. The coaming is of quartered oak, finished ½ inch. After the dory has been smoothed up and sandpapered, it is thoroughly finished with

Anti-Fouling and white lead. Decks, coamings, mouldings and all trim are finished with three coats best spar varnish, and the interior of cockpit is given two coats of French grey. The sterling wheel, rudder and tiller are of galvanized iron. The power plant consists of a Fulton self-sparking engine rated at 3½-4



Lamb Engine Co.'s Nantucket dory.

h.p., but having a bore of 3¾" x 4" stroke, and developing considerably more than its rated horsepower. A Koven cylindrical galvanized tank is located under the forward deck. The price of the dory complete is \$250, f.o.b. City Island, N. Y.

### The Mullins Hydroplane.

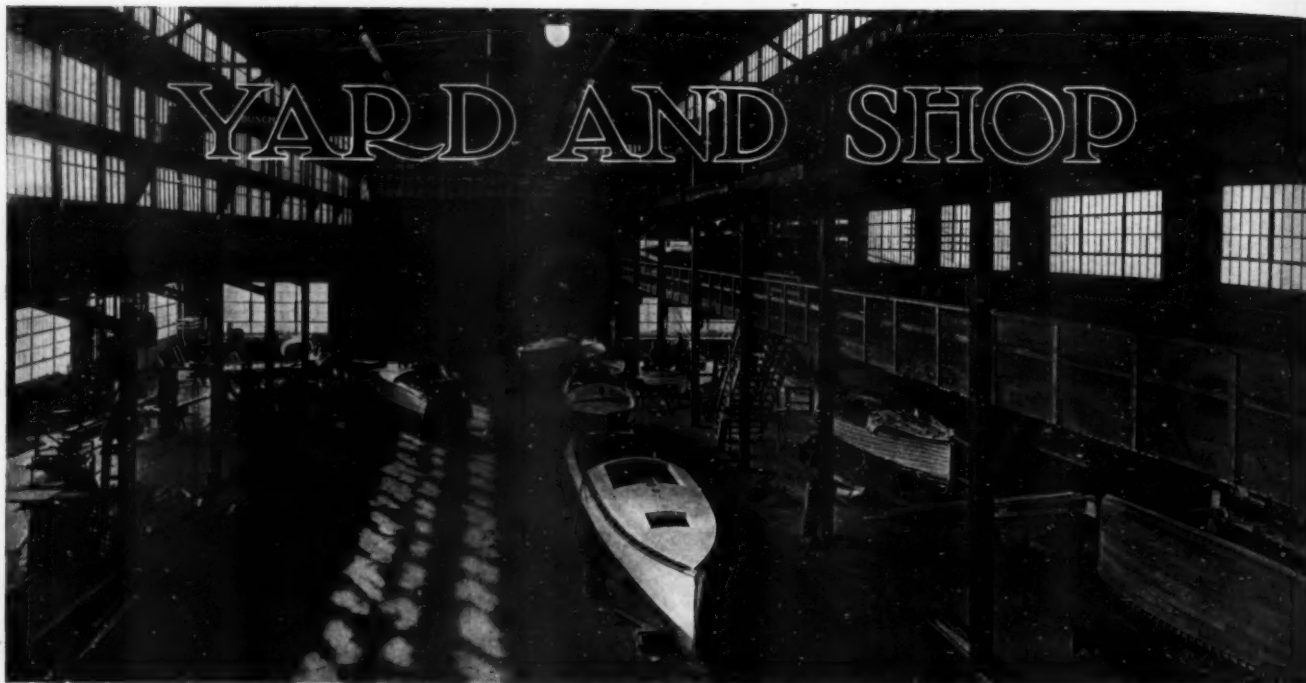
THIS craft is the latest production of the W. H. Mullins Company, of Salem, O. She is equipped with a 25 h.p., three cylinder two cycle Pierce-Budd engine, equipped with Bosch high tension magneto and Joe's

clutch. Her dimensions are: length 16 feet overall, width 4 feet two inches, depth at stern 17 inches. The guaranteed speed is 28 miles per hour and the price is \$1,000. The lines upon which the hydroplane is constructed indicate that she trims nicely when at speed and causes very little disturbance.

The Mullins Company are well known as specialists in the adoption of pressed steel to the construction of boats of all types and sizes. A special grade of steel, which is twice galvanized, is used and in addition an exclusive process is employed which is designed to prevent the galvanizing scaling in use. It should be noted that the steel plates are drop pressed between steel dies of mathematically correct section, thereby insuring absolute accuracy of contour and fitting. Full sized wax models of each design are made in the first instance.



W. H. Mullins Co.'s hydroplane.



Interior view of the new shop of the Milwaukee Yacht & Boat Company, of Milwaukee, Wis.

#### Johnson Reverse Gear.

J. W. M. Wheeler, of Elyria, may claim the honor of being one of America's most distinguished long distance motor boatmen. He spends much of the summer season in long distance cruising, earning his living meanwhile, by demonstrating motor boat equipment. Last summer he traveled 2,000 miles, when an accident compelled him to return home and give up the rest of his contemplated trip.

Last June, just before he started on his long trip, Mr. Wheeler installed on his boat a No. 1 Johnson marine reverse gear, manufactured by the Carlyle Johnson Machine Company of Manchester, Conn. It was understood at the time that the reverse gear was intended for use with a 12 h.p. motor at 500 to 700 r.p.m. At the last moment, however, Mr. Wheeler installed a 3 cylinder 18 h.p. motor, but used the No. 1 gear with it. It was rather a cool proposition to ask the No. 1 gear to hold the 18 h.p. motor, a larger size than it was built to go with, but Mr. Wheeler writes:—"The gear held it all right. It had about 2,000 miles of running and never showed a sign of slipping."

The Carlyle Johnson Company attribute their gear's ability to assimilate more than its fair share of work, to the fact that they use chrome-vanadium steel in the gear and shaft. It is claimed that this steel has a greater "toughness" than ordinary machinery steel and yet weighs less and takes up less space by a considerable percentage.

#### Michigan Wheel Co.'s Increase.

The Michigan Wheel Company, of Grand Rapids, Mich., reports that its orders for 1913 have largely increased over the showing of previous years. Even so early in the season as this a night gang has been put on, and by working steadily for the 24 hours they have been enabled to keep up with the demands for their reverse gears, propeller wheels and other motor boat supplies.

#### Milwaukee Yacht & Boat Co.'s New Home.

The Milwaukee Yacht & Boat Company has recently moved into the handsome new quarters pictured on this page. This new plant is located on the Kinnickinnic River, about half a mile from Lake Michigan, giving plenty of room for expansion. The main shop is of steel, tile and concrete construction and has about 20,000 feet of floor space. The shop is so built that the raw material enters at one side and passes from process to process, emerging a finished

product at the other end of the building. Another interesting feature of this notable plant is a marine railway capable of handling a vessel of 200 tons displacement. The equipment of the entire plant is believed to be unusually complete and includes hoisting machines, cranes and all the innumerable

adjuncts to modern boat building.

The offices of the company are located on the second floor of the main building, and give the visitor an impression of carefully worked out arrangement. The officers of the Milwaukee Yacht & Boat Company are: James B. Welch, president; F. W. Magin, vice-

president; A. W. Crouch, secretary, and C. G. Welch, treasurer. Mr. Crouch is in charge of the designing department.

#### Inimical Legislation.

There is now pending before the Legislature at Albany the Farrell bill, for the control and regulation of motor boats on waters under the jurisdiction of the State of New York. Certain provisions of this measure seem to be particularly inimical to motor boating as a sport and a business, for commercial motor boats are required to carry licensed officers. Motor boating organizations are urged to obtain copies of the measure from D. W. Peck, superintendent of public works at Albany, and bring the matter before their members, so that united effort may be directed against the hostile portions of this proposed law.

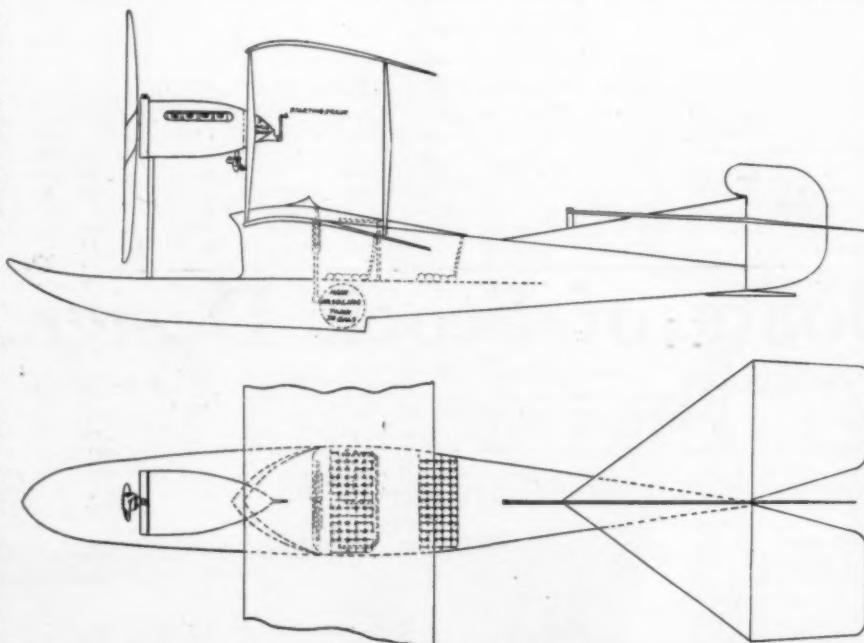
#### New Pickering Boat.

An interesting 150-footer is now in course of designing by H. B. Pickering & Co. The power plant of this new cruiser is to consist of two oil-burning turbines and a Diesel. The design of this vessel will appear in the June issue of Motor Boating.

#### Mixing Borneo and Brazil.

A curious error occurred in our April issue, through the loss of a picture and the use of a wrong caption with another. Under a picture of a boat called "Perfection," which was shown in a tropical setting, we said that she was built by the Fay & Bowen Engine Company for service in Brazil. As a matter of fact the staunch little craft is a native of Borneo, where she is doing excellent service in passenger carrying, with the help of a 4-cylinder, 30 H. P. Caille Perfection motor, and her owners have no intention of letting her get away to Brazil.

We are also showing on page 43 a picture of the handsome little motor craft that was recently completed by the Fay & Bowen Engine Company for their Brazilian client. This boat was designed by Morris M. Whittaker, is 33 feet long, has 7-foot beam, and is driven by a Fay & Bowen 30-45 H. P., 4-cycle, 4-cylinder engine. The Fay & Bowen company tell us that the boat made 14 1/4 miles per hour on a test in Seneca



Curtiss flying boat, specially designed for Harold F. McCormick, of Chicago. Note position of motor.



Plant of the Ferro Machine and Foundry Company, at Cleveland, Ohio.





The new Esterline factory on South Street, Indianapolis, Indiana.

Lake one winter morning, when the thermometer the previous night had registered 14 below zero. A peculiarity of Seneca Lake is that it seldom freezes, but is open when all the other lakes of Central New York state are frozen up tight. This fact is of much service to the Fay & Bowen company, since their testing "ground" at Geneva is open to them practically all winter.

#### Two Sterling Sportsmen.

Two Canadian motor boat sportsmen are preparing to invade the States this summer and give their neighbors across the border a merry chase for speed honors in the several big regattas of the season. Two new hydroplanes have just been ordered from Montreal, and both, it is claimed, will have a guaranteed speed of 50 miles per hour. Jean Versailles, the motor boat enthusiast, will drive a 26-foot hydro of Hacker design in the Gold Challenge Cup Race, Buffalo regatta and the 100-mile Lake St. Louis endurance run. He is installing an 8-cylinder, 150-180 H. P. Sterling racing engine, and expects to make American contenders hustle.

Not to be outdone by his fellow townsman, E. J. Luther, has just placed his order for a 26-foot hydro, also to be driven by an 8-cylinder, 150-180 H. P. Sterling engine and designed by Hacker, of Detroit. Mr. Luther also plans to cross the border and race his boat in American regattas.

#### Fulton Gets Contract.

The Fulton Manufacturing Company, of Erie, Pa., informs us that it has just been awarded a contract by the water commissioners of Erie for a 36-foot service boat to be used for carrying workmen and supplies. This boat is to be equipped with a 15 H. P. self-sparking engine with a kerosene burner, and which carries a speed guarantee of 10 miles per hour.

#### A Visit to the Durkee Plant.

Recently some of the old customers of Chas. D. Durkee & Co., manufacturers and distributors of marine hardware, expressed a desire to see the whole of the extensive plant. Mr. Durkee very good naturedly consented to cicerone the party, which first made a complete tour of the great warehouse on South street, New York City, and later went through the manufacturing plant, including machine shop, brass, aluminum and gray iron foundry at Grasmere, Staten Island.

When the trip was over one of the visitors jokingly asked Mr. Durkee whether there was anything under the sun that he didn't sell. The reply was that the Durkee line comprised practically everything a motor boatman could need except eatables, drinkables, the motor itself and its fuel. He further mentioned that reverse gears, complete ignition equipment, lubricants, lubricating devices, carbureters, mufflers, piping and tanks were included in their daily sales.

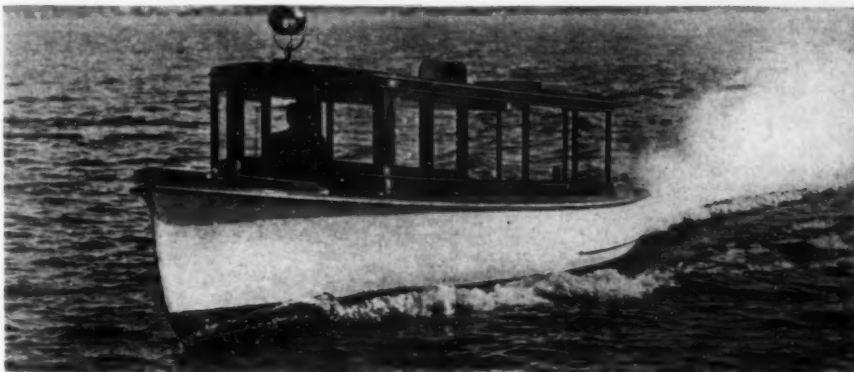
In the course of his talk Mr. Durkee, pointing out his company's full stock of fire extinguishing apparatus, mentioned that many motor boatmen did not seem to realize the fact that the Federal laws compel every motor craft to be equipped with paraphernalia for extinguishing gasoline fires. Failure to comply with this statute renders the motor boat owner liable to severe penalties. "I suppose," went on Mr. Durkee, with a smile, "that I need not refer to the need for life preservers on motor craft, but it may not be amiss to call attention to the fact that such equipment at this time of the year needs a thorough inspection to see that it is still up to the mark." This last is a remarkably useful thing to remember at this season of the year, when fitting out is in full swing.

#### New Naval School.

By a recent judicial decision the Massachusetts Institute of Technology is assured of the funds neces-



"Meteor," a passenger launch, 32 feet 6 inches long. Equipped with an 18-25-h.p. Sterling engine; she can do 14 miles per hour.



A staunch little boat recently completed for a Brazilian client by the Fay & Bowen Engine Company.



This power boat, which was shown last month over an erroneous caption, is a native of Borneo and is powered with a 30-h.p. Caille Perfection motor.



stroke, 4-cycle Speedway gasoline engines with Bosch dual ignition, McCord forced feed oiling system, etc. The controls to the motor are located at the after end of the sliding hatch, bringing the control of the motors readily accessible to the engineer.

#### New Esterline Factory.

The Esterline Company has recently moved from Lafayette, Ind., into a commodious new factory built for it on South street, Indianapolis. Here will be manufactured the Golden Glow electric lamps for motor boats, etc. The Esterline electric starting and lighting system will also be turned out from this plant. In the fall the Lafayette factory will be merged with the Indianapolis plant.



Mr. W. T. Wheeler and Commodore Lagen, of the Yachtsman's Club of Philadelphia, at the launching of Tec, owned by Mr. Wheeler and built by the Ruddock Boat Works, as an entrant for the Bermuda Race.

sary to establish the Pratt School of Naval Architecture and Marine Engineering. This money comes under a will which provides that the work may proceed when the funds amount to three-quarters of a million dollars, which amount is now practically in hand. In this way the institute will be enabled to extend the scope of its marine engineering department, which is already well known in naval circles. Every naval constructor graduating from Annapolis goes to the institute to complete his courses, and the number of students from foreign countries studying in the Massachusetts school is constantly increasing.

#### New Gas Engine Launch.

The Gas Engine and Power Company and Chas. L. Seabury & Co., of Morris Heights, N. Y., have just turned out a very interesting little boat in the shape of a shallow draft gasoline launch named "Yasica." The Cuba Planters Company, of New York, are the purchasers, and the boat is intended for use at their plantations in San Domingo, where she will be employed in towing flat boats loaded with bananas. The "Yasica" is intended for use in very shallow water, and is of tunnel stern type, fitted with a twin screw. The dimensions of the boat are 32 feet length, 9-foot beam, 18-inch draft, and the guaranteed speed is 10 miles per hour, although the builders tell us that more than 11 miles was turned up at the trial.

The power plant is located amidship, with sliding hatch arranged to prevent water from getting into the motor during the rainy season. The machinery consists of two 4-cylinder, 4½-inch bore by 4-inch

### "Champion of Asia."

Word has recently been received from Manila, P. I., of the defeat of the former champion motor boat of Asiatic waters by the Cloverleaf. This new speed demon is a 35-foot runabout, designed by John L. Hacker. She is powered with a 6-cylinder, 100 H. P. Van Blerck motor. Her owner, H. L. Heath, expects to pit his boat against the pick of Asiatic motor craft on July 4, to give them another chance for premier honors.

## Trade Literature Received

### Hall-Gibson Catalogue.

The Hall-Gibson Company, of Rochester, N. Y., is out with a new catalogue covering its line of steering gears. The slogan on the outside of this publication "A Wheel for Every Type of Boat," is certainly borne out by the contents and in its pages the motor boatman can undoubtedly find the gear exactly suited to his craft.

### Dayton Lighting Outfits.

The Dayton Electrical Mfg. Co., of Dayton, Ohio, sends us its new catalogue, which includes pictures and descriptions of every form of electric lighting and ignition equipment for motor craft of every type.

### Pope Boats.

The Pope Boat Company, of Fond du Lac, Wis., is issuing a new catalogue covering its line of water craft of every description. An attractive innovation in catalogue making is introduced by having the publication in the form of a portfolio, the leaves unbound. Ample descriptions of all this company's products are given with numerous, excellent illustrations. In addition this concern is sending out a very nice little catalogue of its line of "knock down" boats in a variety of types, from the little speed craft to the big cruiser.

### Bridgeport Motors.

The Bridgeport Motor Company, of Bridgeport, Conn., has forwarded to us a copy of their 1913 catalogue. The booklet starts with a general description of Bridgeport methods of construction and then follow a very satisfactory series of descriptions of individual motors, fully illustrated.

### Fay & Bowen Catalogue.

The Fay & Bowen Engine Co., of Geneva, N. Y., is issuing a very nice catalogue for 1913. The publication covers this company's entire line of boats and engines. It contains exhaustive descriptions of parts and assembled products, copiously illustrated in half-tone and line. Altogether it is a very creditable example of catalogue making.

### Scripps Detroit in Spanish.

While we cannot vouch for the Castilian purity of



Interior of the new Homer store at Portland, Maine.

the language in the Scripps Detroit Spanish catalogue, which has been forwarded to this office, we believe it may safely be assumed to be on a par with the general excellence of this little booklet's get-up, which we have already noted as regards the English edition of this same publication.

### The Bosch News.

The Bosch Magneto Co. has kindly forwarded to us an advance copy of the March number of the Bosch News. There are some very interesting articles in this little booklet and one couched in semi-technical language, on a new Bosch magneto, is worthy of special notice.

### Elco Catalogue.

The Elco people, of Bayonne, N. J., are issuing a very handsome catalogue covering their 1913 line, which includes types to satisfy the demands of every class of motor boatmen. The choice ranges from the little Elcoplane, built purely for speed to the commodious motor yacht ninety-eight feet in length. The catalogue contains very full descriptions of all the boats and is copiously illustrated.

### Eagle Engines.

The Standard Company, of Torrington, Conn., sends us its catalogue covering the Eagle line of marine engines. There are motors described herein, for all sorts of purposes and there is also a list of ignition accessories. The booklet is amply illustrated.

### Lackawanna Booklet.

The Lackawanna Mfg. Co., of Ballston Spa, N. Y., is issuing a very satisfactory little catalogue of its 1913 line. The endeavor has been to give the reader a concise but full description, in simple language, of each size and type of motor. The booklet is very fully illustrated and sectional drawings help materially to make the subject matter illuminative.

### The Moore Switch.

J. B. Moore, manufacturer of the Moore reverse switch, informs us that he has just issued the third 5,000 edition of his Moore Reverse Switch Booklet.

### Morss Catalogue.

The A. S. Morss Co., of Boston, Mass., is issuing an exhaustive catalogue covering its 1913 accessory line. An interesting feature of this year's catalogue is the discount list, giving prices on the entire line. The list of accessories includes practically every product needed for the motor boat.

### Hodgson Houses.

The E. F. Hodgson Co., of Boston, Mass., sends us a very neat booklet covering its line of portable houses. The connection between these ready made summer homes and the motor boat is readily apparent and the combination of the two spells "Ideal Vacation."

### Navalite Booklet.

The Chicago Varnish Company is issuing a very nice little booklet descriptive of their marine varnish known as "Navalite." In addition to giving full information as to the uses to which the product may be put, its properties, virtues, etc., there is given a collection of letters from actual users, telling of their experiences.

### Crockett Spar Composition.

The David B. Crockett Co., of Bridgeport, Ct., is issuing a very full catalogue covering its Spar Composition and other marine varnish specialties. The No. 1 Preservative for interior cabin work and the waterproof floor finish for cabin floors are fully described, with methods of application. The motor boatman who understands the necessity for getting varnishes that are made to meet the conditions encountered in marine work, will be deeply interested in this Crockett catalogue, which in itself is a very creditable piece of booklet making.

### Auto Craft Catalogue.

The Cleveland Auto Boat Mfg. Co., of Cleveland, Ohio, sends us its 1913 catalogue of Auto Craft Launches. There are full descriptions of this interesting line of small boats and a supplementary list of motor boat accessories. The booklet is copiously illustrated.

### Chas. Miller Catalogue.

The new Miller catalogue is in our hands. Between the colored covers of this publication, the motor boatman will find every imaginable accessory to make pleasant "life on the ocean wave." There are 256 pages and every page is filled with things to make the enthusiast happy. As usual, the Miller catalogue is copiously and satisfactorily illustrated.



An interesting view of a busy corner of the work-shop of the Baldrige Gear Company at Detroit, Mich.

1913	MAY							1913
SUN	MON	TUE	WED	THU	FRI	SAT		
Weather on	Weather on	At Time	Day the	1	2	3		
4	5	6	7	8	9	10		
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30	31		

# CALENDAR

1913	JUNE							1913
SUN	MON	TUE	WED	THU	FRI	SAT		
1	2	3	4	5	6	7		
8	9	10	11	12	13	14		
15	16	17	18	19	20	21		
22	23	24	25	26	27	28		
29	30	.	Feast of St. John	Feast of St. Barnabas	Feast of St. Peter	Feast of St. Paul		

May 30th. Hudson River Yacht Racing Association Relay Race, New York to Poughkeepsie and return.  
May 30th. Races at the Tappan Zee Yacht Club.  
June 7th. Philadelphia to Bermuda Race, 734 nautical miles. Yachtsmen's Club of Philadelphia and the Royal Bermuda Yacht Club of Hamilton, Bermuda.  
June 7th. Races at the Columbia Yacht Club, New York City.  
June 14th. Races at the Shattemuc Yacht & Canoe Club, Ossining, N. Y.

June 21st. New York to Block Island Ocean Race, 100 nautical miles. New York Athletic Club.  
June 28th. New York to Albany and Return Race, 235 nautical miles. New York Motor Boat Club.  
July 4th. Races at the Tappan Zee Yacht Club, Grand View on Hudson.  
July 4th-6th. Carnival of the Red Bank Motor Boat Club, Red Bank, N. J.  
July 18th. New York to Cornfield Reef and Return Race, 185 nautical miles. Colonial Yacht Club.

July 27-August 2nd. Perry Centennial Carnival, Toledo and Put-in-Bay, Lake Erie.  
August 2nd and 3rd. Hudson River Yacht Racing Association Cruise to Newburgh.  
August 9th and 10th. New York to Poughkeepsie and Return Race, Colonial Yacht Club.  
August 10th-22nd. Association Yacht and Power Boat Clubs Carnival, Chicago, Ill.  
Sept. 1st. Annual Regatta of the Hudson River Yacht Racing Association, Haverstraw Bay.



## MOTOR BOATING ADVERTISING INDEX

A		Gas Engine & Power Co. and Chas. L. Seabury Co., Consolidated	106	Nicholson File Co.	119
Aaron Automatic Bilge Pump Co.	78	Gasoline Engine Equipment Co.	82	Nock, Frederick S.	62
Aermore Mfg. Co.	78	General Electric Co.	78	Northwestern Motor Co.	114
American Engine Co.	103	Gielow & Orr	59-62	O	
American Life Saving Garment Co.	93	Gies Gear Co.	78	Oakes & Dow Co., The	123
American Steam Gauge & Valve Co.	88	Gill & Sons Foundry Machine Works	86	Oshkosh Metal Products Co.	128
American Thermos Bottle Co.	80	Gillespie, Chas. H. & Sons	66	P	
Anderson Engine Co.	3d Cover	Gilmore Motor Mfg. Co.	118	Packard Electric Co.	114
Anderson Spark Plug Co.	129	Gladish Bros. Machine Works	70	Page Engineering Co.	84
Apple Electric Co., The	81	Goblet-Dolan Mfg. Co.	78	Palmer Bros.	112
Ariston Co., The	105	Gray Motor Co.	76	Pearl Machine Co.	68
Armstrong, E. A., Co.	78	Gray-Hawley Mfg. Co.	126	Peerless Engine Co.	129
Auto-Pneumatic Swimming Belt, Inc.	78	Gries Engine Co.	129	Pickering & Co., H. B.	62
Automatic Bilge Bailer Co.	86	Grimm Mfg. Co.	118	Pioneer Boat & Pattern Co.	130
Automatic Machine Co., The	73	H		Planhard Mfg. Co.	112
B		Hacker, John L.	80	Pneumatic Mfg. Co.	128
Bakewell & Phillips	64	Hall Gas Engine Co.	70	Poebel, T. S., & Co.	62
Baldridge Gear Co., The	113	Hall-Gibson Co.	123	Probst-Greif Co.	84
Barber Bros.	80	Hand, Wm. H., Jr.	62	Pyrene Mfg. Co.	108
Barker, C. L.	72	Harbeck Motors Co.	72	R	
Bath Marine Construction Co.	128	Harris (A. W.) Oil Co.	98	Racine Boat Co. (Racine)	123
Bayonne Launch Co.	128	Hatch Oil Engine Co.	72	Raymond Engineering Co.	70
Berry Bros., Ltd.	66	Hearst's Magazine	72	Red Wing Motor Co.	84
Bianey, Arthur	62	Henke Mfg. Co.	66	Regal Gasoline Engine Co.	124
Boston Varnish Co.	66	Henricks Novelty Co.	80	Reiter Boat Mfg. Co.	108
Boucher Mfg. Co., H. E.	78	Herbert & Huesgen	78	Reliance Motor Boat Co.	56-128
Bowes & Mower	62	Hickok Mfg. Co.	68	Rice Bros. Co.	84
Breese & Breese	62	Holmes Motor Co., Inc., The	109	Richardson, G. R.	84
Bridgeport Bronze Marine Paint Co.	67	Hopkins & Co., John C.	116	Robbins Co., L. D.	128
Bridgeport Motor Co., Inc.	90	Howard Cruiser Works	82	Roberts Motor Co.	92
Brooks Mfg. Co.	70	Human Life Preserver Co.	106	Robertson Bros.	82
Brown-Collins Gas Engine Co.	72	Hyde Windlass Co.	100	Roper & Co., C. F.	109
Brown Folding Stool Co.	129	Hydrex Silent Exhaust Works	130	Rose Mfg. Co.	123
Brams, Kimball & Co., Inc.	54-62	I		S	
Bryant & Berry Co.	113	Ideal Switch Co.	72	S. R. Mfg. Co.	130
Buermann, August	126	Inst Igniter Co., The	80	Samson Cordage Works	68
Buffalo Gasoline Motor Co.	132	J		Sands & Sons Co., A. B.	74-75
Byrne, Kingston & Co.	103	Janney, Steinmetz & Co.	121	Scripps Motor Co.	99
C		Jenckel Motor Co.	130	Seaman, Stanley M.	47
Cable Perfection Motor Co.	71	Jennings Yacht Agency	55	Shaw Propeller Co.	114
Cumden Anchor-Rockland Mach. Co.	111	Jerolamon, Willard A.	130	Sherman, Eugene M.	70
Campbell Motor Co., The	116	John, William Edgar	62	Sherwin-Williams Co., The	67
Canadian Fairbanks-Morse Co., Ltd.	123	Jones, Frank Bowne	51	Six Little Yankees Co.	80
Cape Cod Power Dory Co.	70	Jones Co., S. M.	102	Smalley-General Co.	123
Carlisle & Finch Co.	129	Jordan Bros. Lumber Co.	80	Smith & Co., Edward	64
Carlyle Johnson Mach. Co., The	94-95	K		Smith (L. C.) Co., Inc.	129
Carpenter & Co., Geo. B.	103	Kahlenberg Bros.	130	Smith-Ryan Boat & Engine Co., The	79-117
Chase & Co., L. C.	78	Kennebec Boat & Canoe Co.	72	Snow & Petrelli Mfg. Co.	88
Chelsea Clock Co.	96	Kenyon Co., R. L.	91	Splitdorf Electrical Co.	128
Chicago Varnish Co.	63	Kernath Mfg. Co.	118	Springfield Mfg. Co.	117
Classified Advertisements	60-61	Koven & Bro., L. O.	80	Standard Co., The	97
Cleveland Auto Boat Mfg. Co.	113	Krice Carburetor Co.	130	Standard Gas Engine Co.	124
Coe (W. H.) Mfg. Co.	68	Krogman & Purdy	62	Standard Motor Construction Co.	3d Cover
Coleman & Sons, Walter	80	Kroh Mfg. Co.	124	Standard Oil Co.	80
Columbian Brass Foundry	87	Kuhls, H. B., Fred.	64	Stanley Co.	84
Commercial Acetylene Railway Light & Signal Co.	84	L		Star Ball Retainer Co., The	88
Connecticut Tel. & Elec. Co.	116	Lackawanna Mfg. Co.	121	Stearns-McKay Mfg. Co.	68
Cosmopolitan	82	Lamb Boat & Engine Co.	132	Sterling Engine Co.	Back Cover
Cox & Stevens	46-62	Lawley, Geo. & Son, Corp.	82	Sturtevant (B. F.) Co.	68
Coyne Box Turbine Propeller Co.	100	Leary Gasoline Engine Co.	130	Swasey, Raymond & Page	59
Cragg Motor Mfg. Co.	117	Lisk, Geo. A.	82	T	
Craig, James	62	Lobee Pump & Machinery Co.	127	Tams, Lemoine & Crane	49
Crockett Co., The David B.	64	Lockwood-Ash Motor Co.	103	Thermex Silencer Works	70
Curtiss Co., J. H.	126	Loew-Victor Mfg. Co., The	131	Thomas & Co., W. E.	68
D		Luders Marine Construction Co.	73	Thompson, Lawrence M.	62
Dale, Wm. L.	72	M		Tiebout, W. & J.	68
Darrow Steel Boat Co.	72	McClellan Top & Hood Co.	84	Times Square Auto Co.	120
Davis Boat Works Co., The	80	McFarland Foundry & Machine Co.	127	Toledo Spark Plug Mfg. Co.	119
Dayton Electrical Mfg. Co.	80	McIntosh (A. J.) Yacht Agency	57-62	Toppan Boat Co.	72
DeLafayette & Motor Works	70	McKinnon Dash Co.	88	Torrey Roller Bushing Works	104
DeLong Engine Co.	64	McQuay-Norris Mfg. Co.	110	Trebert Engine Works, H. L. F.	82
Detroit Boat Co.	70-82	Mann Yacht Building Co., The	80	Trimount Rotary Power Co.	119
Detroit Engine Works	72-80	Marburg Bros., Inc.	72	Tuttle Motor Co.	82
Detroit Lubricator Co.	113	Marine Compass Co.	68	U	
Detroit Motor Car Supply Co.	80	Mathis Yacht Building Co.	88	U. S. Light & Heating Co., The	120
Diam, Gus A.	129	Matthews Boat Co., The	3d Cover	Universal Machine Co.	84
Doman Co., H. C.	101	Maximotor Makers	117	Universal Motor Boat Supply Co.	104
Douglas, Page & Co.	72	Mea Magneto	72	V	
Driver-Harris Wire Co.	80	Mechanical Devices Co., Inc.	70	Valentine & Co.	63
Durkee & Co., C. D.	116	Mercury Motor Co.	110	Valley Boat & Engine Co.	124
E		Michigan Steel Boat Co.	72	Van Blerck Motor Co.	120
Edson & Wilson	123	Michigan Wheel Co.	119	Vanguard Engine Co.	84
Edson, Inc., Thomas A.	99	Miller, Chas. E.	127	Vim Motor Co.	122
Edson-Rayonne (The Electric Launch Co.), and Cover	52-53	Milton Boat Works	86	Viper Co., The, Ltd.	120
Edredge (Albert E.) Corp.	101	Milwaukee Yacht & Boat Co.	125	W	
Electric Goods Mfg. Co.	111	Monarch Valve Co.	114	Waterbury Welding Co.	126
Electric Tachometer Co., The	107	Monitor Boat & Engine Co.	78	Water Craft Co., The	82
Emerson Engine Co., Inc.	115	Moore, J. R.	127	Waterman Marine Motor Co.	107
Emmons Specialty Co.	80	Morgan Mfg. Co.	129	Watkins Motor Co., The	82
End Motor Co.	126	Morris, B. N.	84	Watts, J. Murray	62
Enns Stamping & Plating Co.	80	Morris, A. S.	78	Weekler Boat Co.	82
Eslerade Motor Co.	98	Mosler (A. R.) & Co.	78	Welin Marine Equipment Co.	68
F		Motor Boat & Supply Co., The	127	Wells, Theodore D.	62
Fairbanks, Morse & Co.	82	Motor Speeder Sales Co.	70	Whitaker, Morris M.	62
Fairhaven Iron Foundry Co.	126	Motsinger Device Mfg. Co.	68	Whittelsey & Whittelsey	58-62
Fay & Bowen Engine Co.	92	Mullins, W. H., Co.	115	Wicker-Kraft Co.	128
Fellows Yacht & Launch Co.	62	Murphy Varnishing Co.	64	Wilcox, Crittenden & Co., Inc.	121
Fenner Co., W. A.	72	Murray & Tregurtha	86	Willis Co., E. J.	121
Ferinand & Co., L. W.	68	N		Wilmarth & Morman	80
Ferro Machinery & Foundry Co.	85	Narragansett Chemical Co.	68	Winton Gas Engine & Mfg. Co.	83
Fiske Bros. Refining Co.	115	National Gear Co.	89	Wisconsin Mach. & Mfg. Co.	125
Fogg, M. W.	68	Naval Architects & Yacht Brokers	62	Wolverine Lubricants Co.	77
Frisbie Motor Co.	126	New Departure Mfg. Co.	68	Wolverine Motor Works	84
Fulton Mfg. Co.	115	New York Gear Works	127	Wonder Mfg. Co.	72
G		New York Yacht, Launch & Engine Co.	127	World Today	78
Galusha, A. L. & Co.	70	Niagara Motor Boat Co.	123	Wright Engine Co., C. T.	122
Gardner, Wm. & Co.	48	Niagara Motors & Mfg. Co., Inc.	69	Y	
		Nichols Co.	127	Yankee Co., The	80
				Younge, Wm. P. & Bros.	68

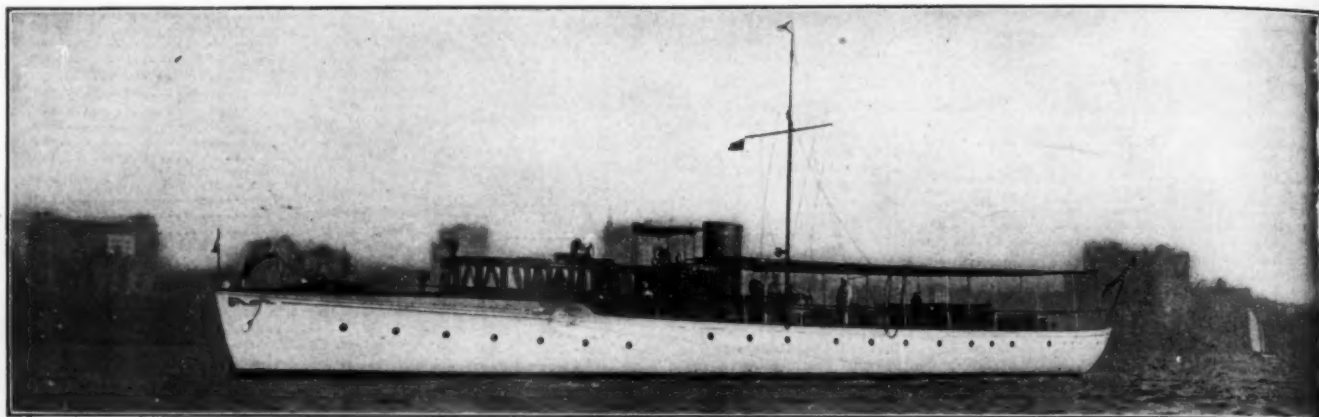
# COX & STEVENS

## NAVAL ARCHITECTS AND YACHT BROKERS

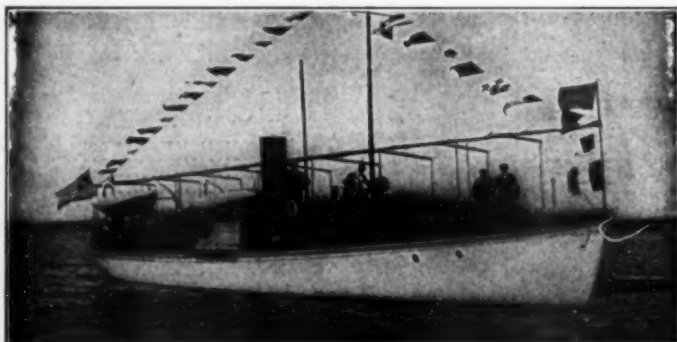
Telephone  
1375 Broad

15 William Street  
New York City

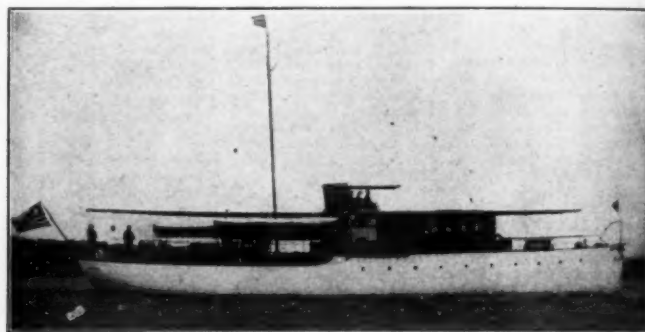
We have a complete list of all steam and power yachts, auxiliaries and houseboats available FOR SALE and CHARTER. A few are shown on this page. Plans, photographs and full particulars mailed on request.



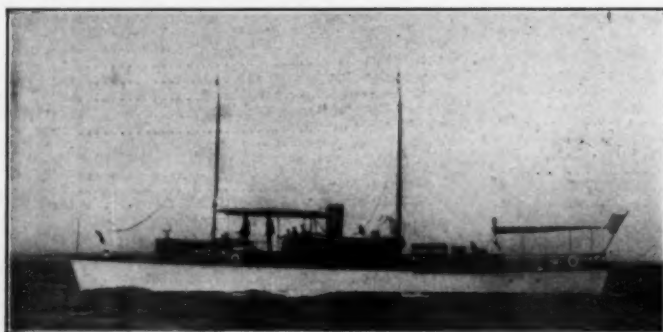
No. 883.—For Sale or Charter.—Exceptionally handsome, fast, steel twin screw cruising power yacht; 118 x 16.6 x 5 ft. Built 1910, from our design. Speed up to 18 miles; two 300 H. P. Craig motors, three double staterooms, main and dining saloons, two bathrooms, electric lights, etc.; handsomely finished and furnished. Probably the most desirable proposition ever offered in a large gasoline yacht. Apply to Cox & Stevens, 15 William St., New York.



No. 481.—Exceptional Bargain.—Fast, twin-screw power yacht; 93 x 13.6 x 4.6 ft. Speed 14-16 miles; two 110 H. P. 6 cylinder Standard motors; excellent craft for cruising and day service; handsomely finished in mahogany throughout; in first-class condition; owner has larger boat. Cox & Stevens, 15 William Street, New York City.



No. 961.—For Sale.—Very seaworthy, twin-screw, cruising power yacht; 90 x 17 x 4 ft.; recently built by Lawley from our designs; speed 12-13 miles; two 60 H. P. Craig motors; large deck dining saloon, three staterooms, bath, two toilets; independent electric lighting plant, hot water heating system, etc. Price very attractive. Cox & Stevens, 15 William Street, New York City.

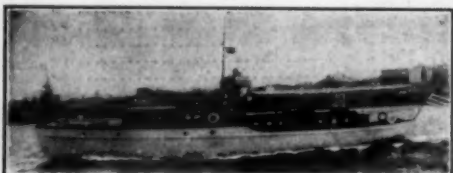


No. 372.—For Sale.—Comfortable cruising power yacht; 85 x 14 x 4.6 ft.; speed 12-13 miles; 6 cylinder 20th Century motor (installed 1911); three staterooms, bath, dining saloon, etc.; mahogany finish throughout; exceptional bargain. Cox & Stevens, 15 William Street, New York City.

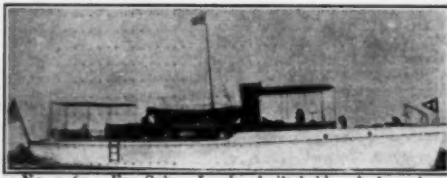


No. 1387.—For Sale.—Very desirable twin-screw gasoline cruiser, 65 x 11.6 x 4.3 ft. Built 1911. Speed 13-14 miles; 20th Century motors. Two double staterooms, dining saloon, bath. Cox & Stevens, 15 William St., New York.

Please mention MOTOR BOATING.



No. 1936.—For Sale.—Modern gasoline cruiser; 62 x 11.6 x 3.9 ft.; built 1912; speed 11 miles; 40-60 H. P. Murray & Tregurtha motor; forward and after saloons with two berths in each, double stateroom, toilet room, etc.; motor controls on bridge; very desirable cruiser; price attractive. Cox & Stevens, 15 William Street, New York.



No. 1467.—For Sale.—Lawley built bridge deck cruiser; 53 x 11 x 3.6 ft.; built 1911; speed 12-13 miles; 45-60 H. P. 20th Century motor, practically new; exterior finish of teakwood; interior of selected mahogany; double stateroom, saloon, toilet room and separate galley aft of engine room and crew quarters; most desirable cruiser of type and size ever offered; price very reasonable. Cox & Stevens, 15 William Street, New York City.

Please mention MOTOR BOATING.



No. 662.—For Sale.—Hunting cabin cruiser; 40 x 9 ft.; 20th Century motor; finished in selected mahogany throughout; complete inventory; offer desired. Cox & Stevens, 15 William Street, New York City.



TELEPHONES, 3479 CORTLANDT  
3171

BRITISH CORRESPONDENT

**STANLEY M. SEAMAN**  
**YACHT BROKER**

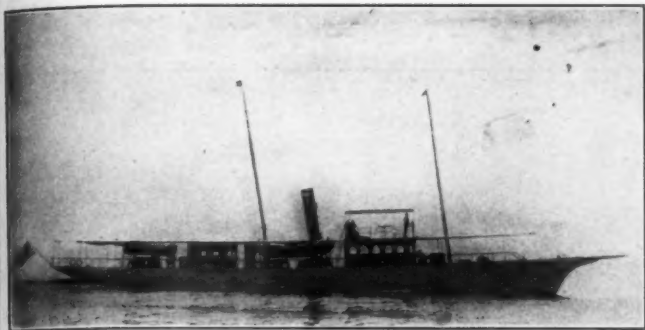
220 BROADWAY, N. Y.

(ESTABLISHED 1900)

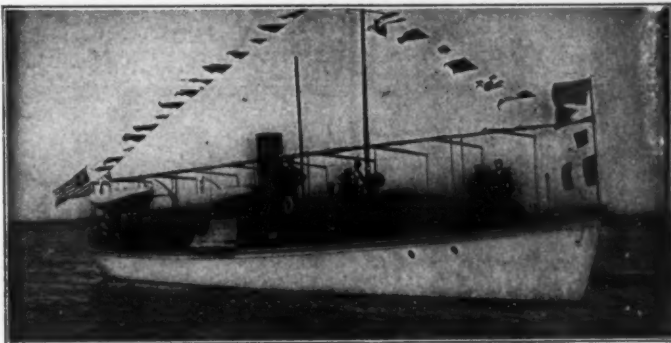
CABLE, "HUNTSEA" N. Y.

MARINE INSURANCE

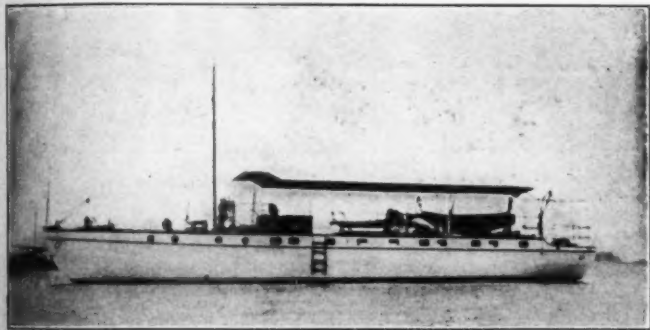
My Illustrated Yacht List showing intending buyers, in concise form, the various types and sizes of the 2,000 or more yachts for sale and charter, has just been published and will be forwarded gratis to those interested.



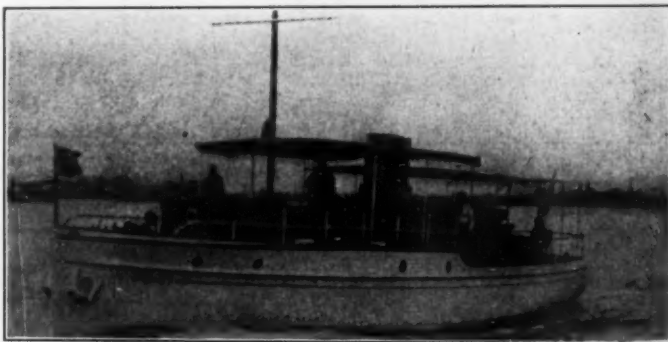
7286.—125 ft. steam coast cruiser; 18.2 beam; Herreshoff build; 6 staterooms and 2 baths; speed 16 miles; very economically maintained; offered by estate. Stanley M. Seaman, 220 Broadway, New York.



6411.—High-grade twin-screw fast cruiser; 93 o. a., 13½ beam, 4½ draught; two 110 H. P. Standards; speed 14-16 miles; double stateroom and bath forward; large saloon with 4 Pullman berths and toilet room aft; complete and elegant inventory; everything in first-class condition; cost \$35,000; offer solicited; inspectable New York. Stanley M. Seaman, 220 Broadway, New York.



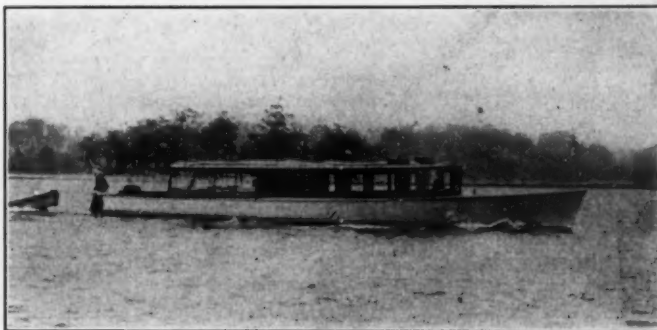
7280.—68 ft.; 2 staterooms, large saloon, sleeps 8, bath; two 25 Standards; speed 12 miles; in commission. Stanley M. Seaman, 220 Broadway, New York.



7316.—Twin-screw; 60 ft. cruiser, launched 1912; roomiest craft size available; low price. Stanley M. Seaman, 220 Broadway, New York.



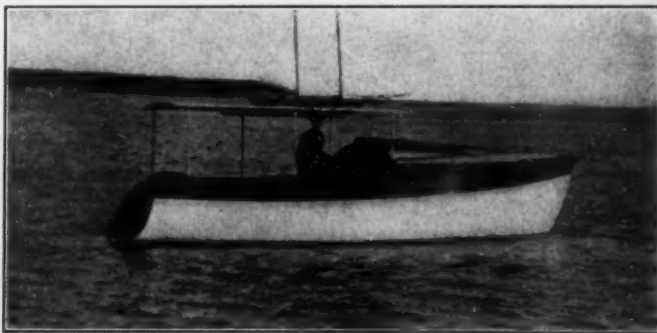
7108.—36 o. a.; speed 15 knots; very low price. Stanley M. Seaman, 220 Broadway, New York.



6687.—50 ft. day cruiser; speed 15 miles; 50 H. P. Holmes; overhauled, painted, varnished; everything right; ready to use; cost \$6,000; bargain. Stanley M. Seaman, 220 Broadway, New York.



7283.—45½ ft.; launched 1912; roomiest boat of size; ideal cruiser. Stanley M. Seaman, 220 Broadway, New York.



7301.—28 ft. cruiser; splendid sea boat; 10 H. P. Palmer; speed 9 miles; low price. Stanley M. Seaman, 220 Broadway, New York.

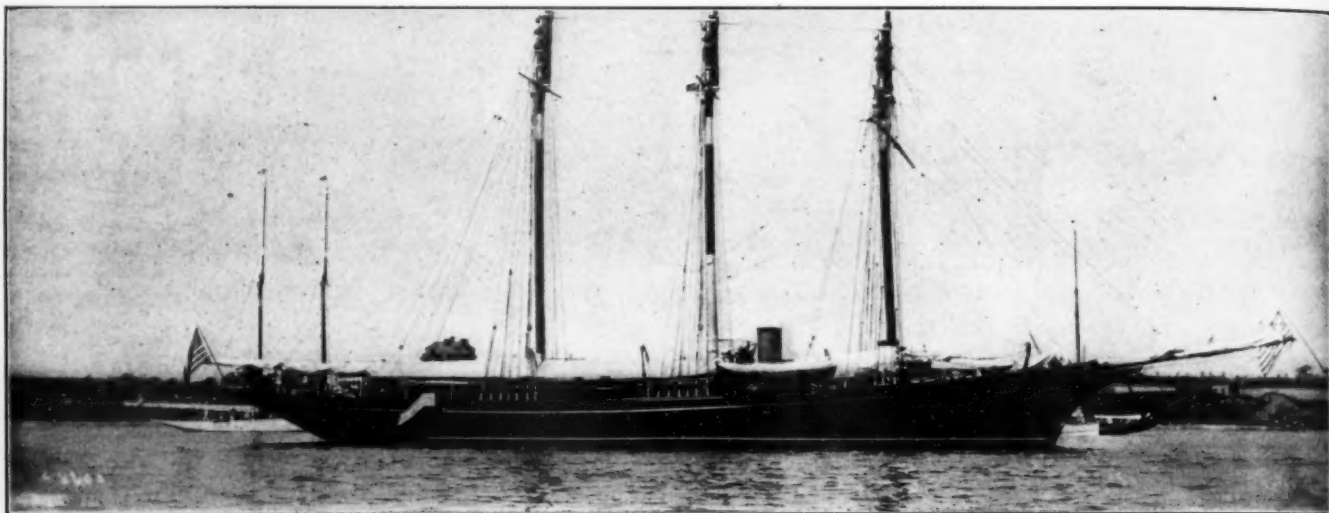
WILLIAM GARDNER

FREDERICK M. HOYT

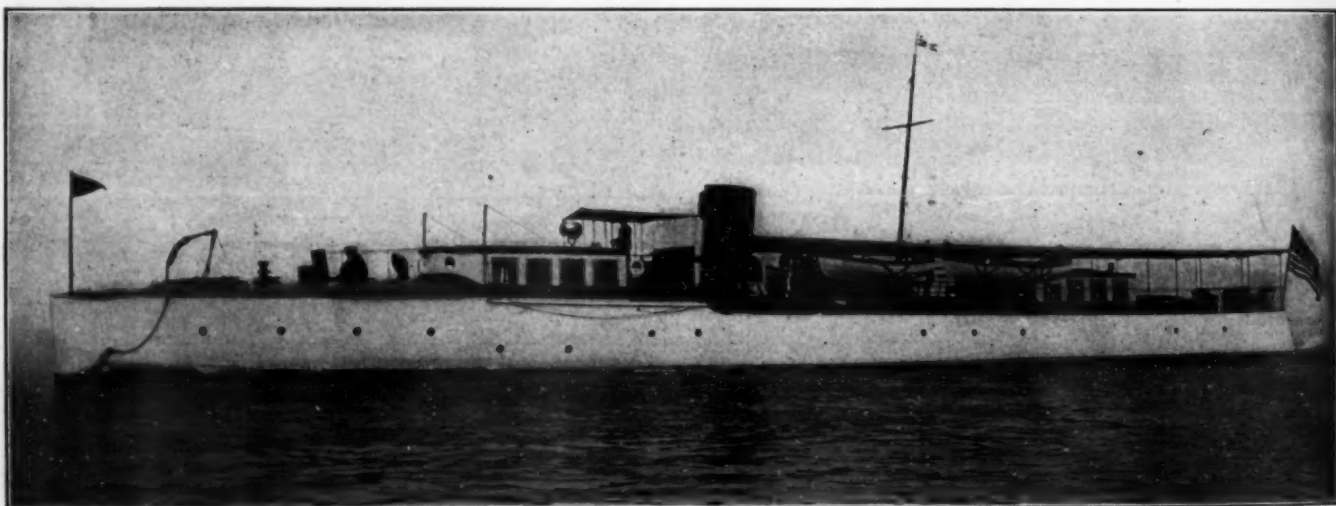
PHILIP LEVENTHAL

**WILLIAM GARDNER & CO.****NAVAL ARCHITECTS, MARINE ENGINEERS AND YACHT BROKERS**Telephone Call  
3585 Rector**1 BROADWAY, NEW YORK**Cable Address  
Yachting, N. Y.

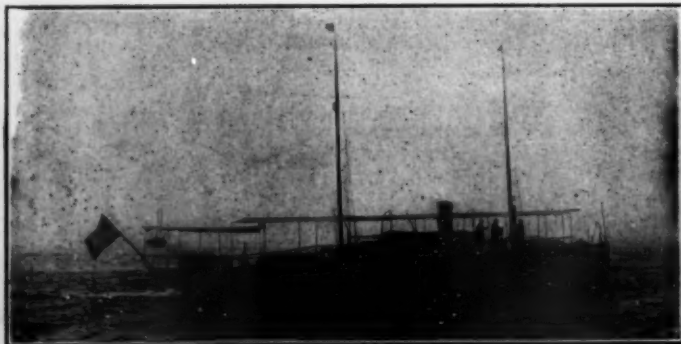
WE HAVE A COMPLETE LIST OF YACHTS OF EVERY DESCRIPTION FOR SALE AND CHARTER. PLANS, PHOTOS AND FULL PARTICULARS FURNISHED ON REQUEST.



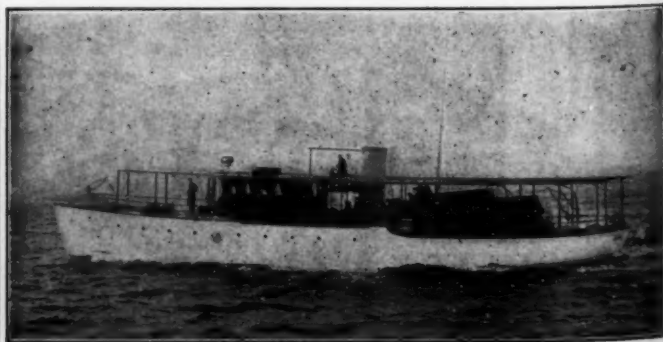
No. 638.—Steam auxiliary yacht, steel; 198 ft.; recent build; all modern appliances; ideal vessel for extensive cruising. Offered by an estate.  
*Please mention MOTOR BOATING.*



No. 618.—Sale or Charter.—135 ft. steel express cruiser; four staterooms, two saloons, baths, etc. Elegant appointments. Speed 17 knots.  
*Please mention MOTOR BOATING.*



No. 1760.—Sale and Charter.—Flush deck, 85 ft. gasoline cruiser; Standard engine.  
*Please mention MOTOR BOATING.*



No. 1483.—For Sale.—Modern cruiser, 90 ft. x 83 ft. x 17 ft.; built by Lawley, 1909; commodious accommodation; two 60 H. P. motors. Adapted for Northern and Southern cruising.  
*Please mention MOTOR BOATING.*

When writing to advertisers please mention **MOTOR BOATING**, the National Magazine of Motor Boating.



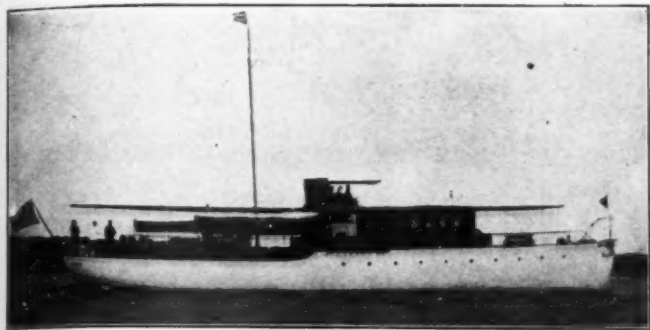
# TAMS, LEMOINE & CRANE

Telephone  
4510 John

NAVAL ARCHITECTS  
AND  
YACHT BROKERS

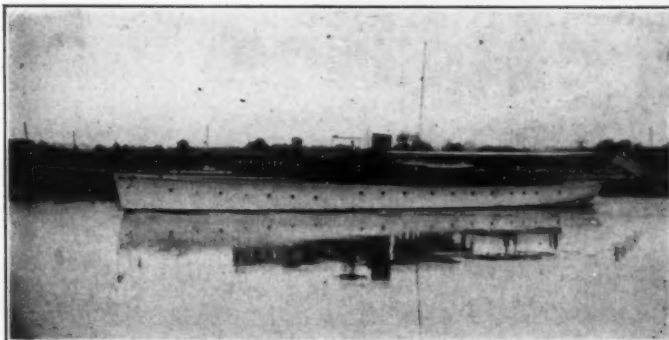
52 Pine Street  
New York City

Offer for sale the following yachts, a number of which are also available for charter.



No. 7877.—For Sale.—Price attractive, modern raised deck cruiser, 90 ft. x 17 ft. x 3 ft. 6 in. draft. Built by Lawley, 1909; 2-60 H. P. Craig motors; saloon, three good size staterooms.

Please mention MOTOR BOATING.



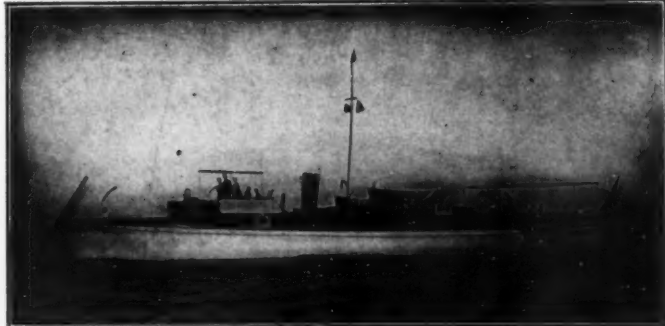
No. 7999.—For Sale—Charter.—Fast twin screw gasoline cruiser; speed 20 miles; Craig motors.

Please mention MOTOR BOATING.



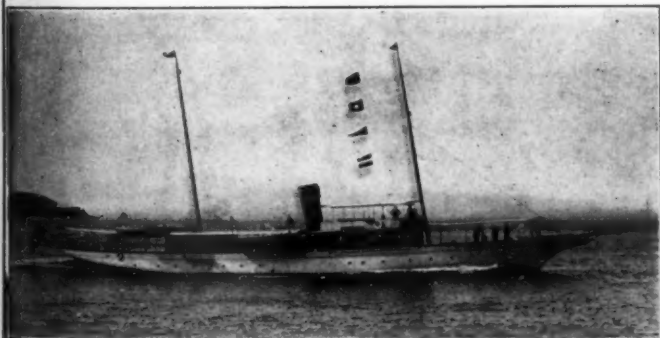
No. 7186.—For Sale.—At a reasonable figure, fast and able cruising motor yacht, 90 ft. x 12 ft. x 5 ft. draft; 300 H. P. 6 cylinder Standard motor. Speed 20 miles.

Please mention MOTOR BOATING.



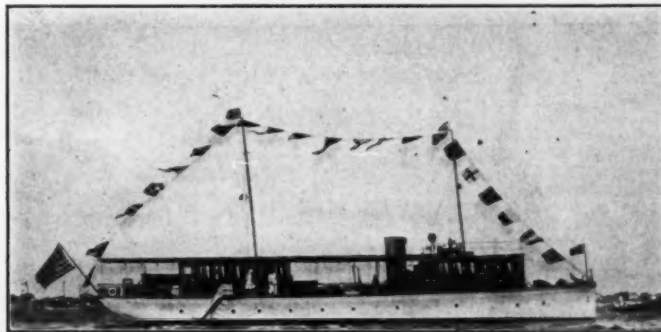
No. 7356.—For Sale—Charter.—80 ft. motor cruiser; 20th Century motor; speed 12 miles.

Please mention MOTOR BOATING.



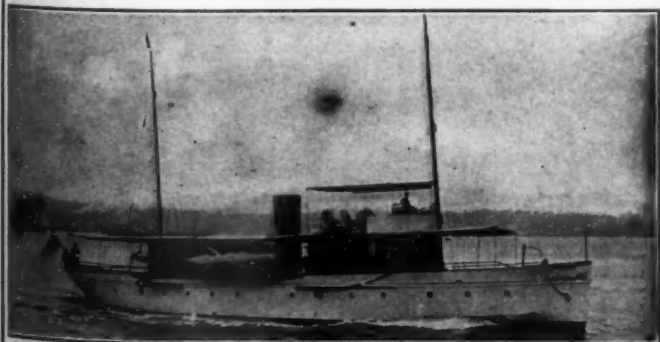
No. 12.—Sale or Charter.—Desirable 145 ft. steam yacht; attractively arranged; in excellent shape.

Please mention MOTOR BOATING.



No. 7997.—For Sale or Charter.—Desirable 98 ft. motor cruiser; 2-75 H. P. Standard motors.

Please mention MOTOR BOATING.



No. 7995.—Sale or Charter.—100 ft. steel twin screw cruiser; excellent accommodations; Standard motors.

Please mention MOTOR BOATING.



No. 8498.—For Sale.—35 foot Elco runabout, 60 H. P. A. & B. motor; 50 gallon copper gasoline tank; speed 24 miles; motor in excellent shape; has just been taken apart and thoroughly overhauled; hull has been scraped and varnished; not a penny would have to be spent on this craft; one of the best buys of the season.

Please mention MOTOR BOATING.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

NAVAL ARCHITECTS  
ENGINEERS  
BROKERS  
MARINE INSURANCE

## GIELOW & ORR

52 Broadway, New York

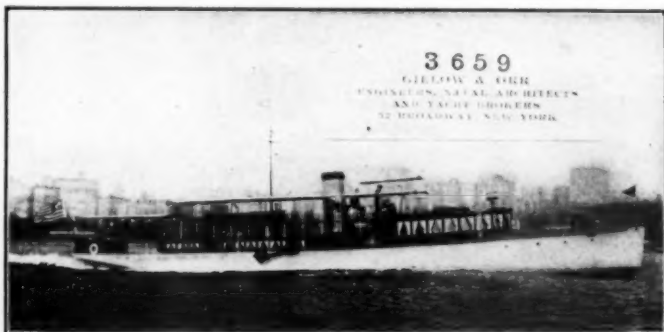
Telephones: { 4673 } Broad  
{ 4674 }  
Cable Address:  
Crogie, New York  
A. B. C. Code

We have probably the largest list of American and European Yachts of all types for sale, charter or exchange, of any marine brokers. We give special attention to this department so that our information on each boat is always the most complete and up-to-date available.

As there are upwards of 3,000 yachts in our list, we can furnish you with exactly what you want, whatever the type, size, cost,

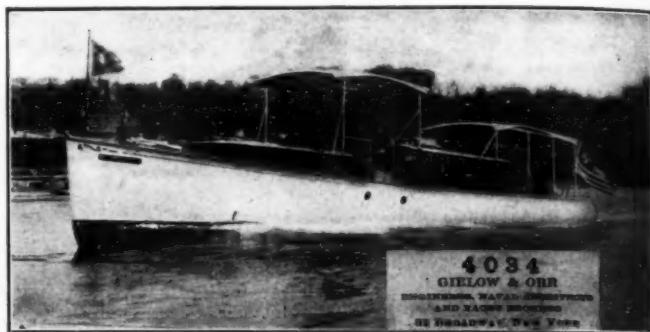
equipment or class of service you have in mind. We publish no book of these, because our list is so large and constantly changing, but we will promptly submit photographs and full information on all suitable boats on the market, if you mention your requirements.

Our long experience as architects and engineers lends an added value to our brokerage service, in expert appraisal and advice, estimates and supervision on alterations, etc.



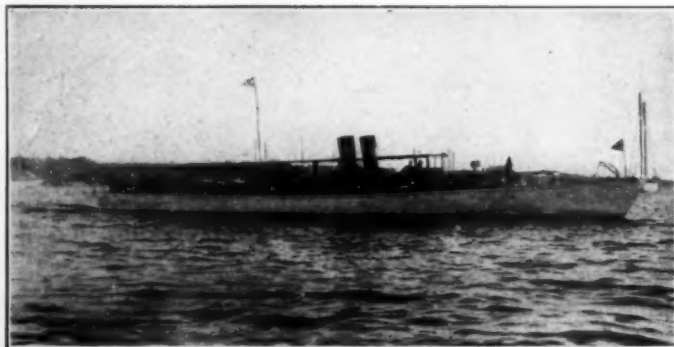
No. 3659.—Sale.—99 ft. x 14 ft. x 4 ft. 6 in.; twin-screw; 18 miles; unusually comfortable.

Please mention MOTOR BOATING.



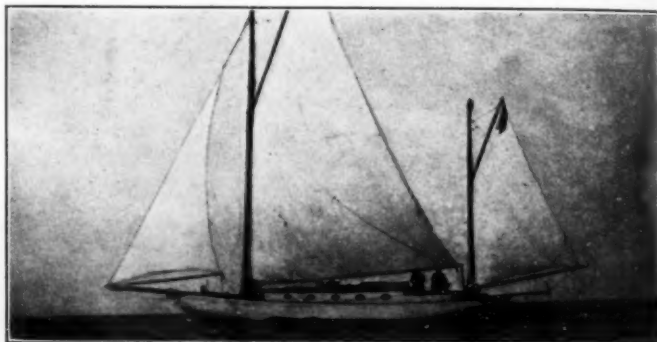
No. 4034.—Sale.—Modern 50 ft. x 8 ft. x 3 ft. high-class day cruiser; 18-19 miles. Built 1911.

Please mention MOTOR BOATING.



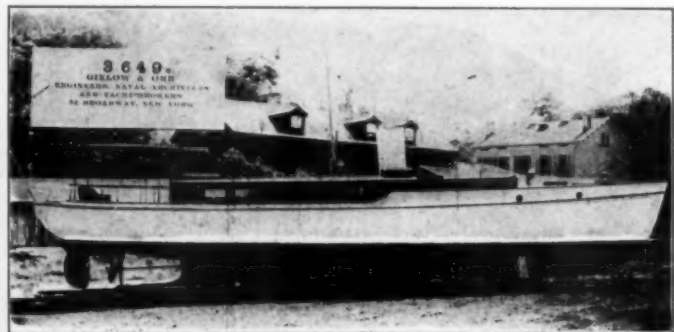
No. 3448.—Bargain.—111 ft.; twin-screw; express type; speed up to 19 knots.

Please mention MOTOR BOATING.



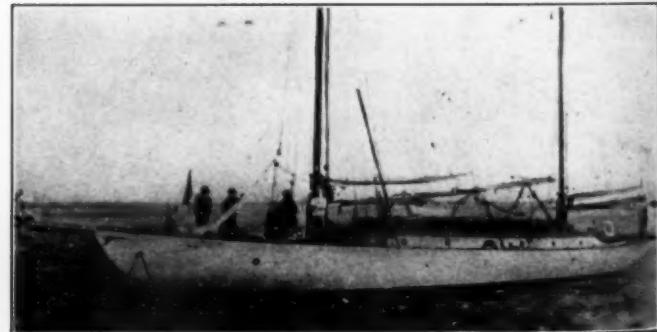
No. 2248.—Bargain.—C. B. auxiliary yawl, 48 ft. x 32 ft. x 12 ft. 6 in. x 5 ft; Murray & Tregurtha engine; fine seaboard.

Please mention MOTOR BOATING.



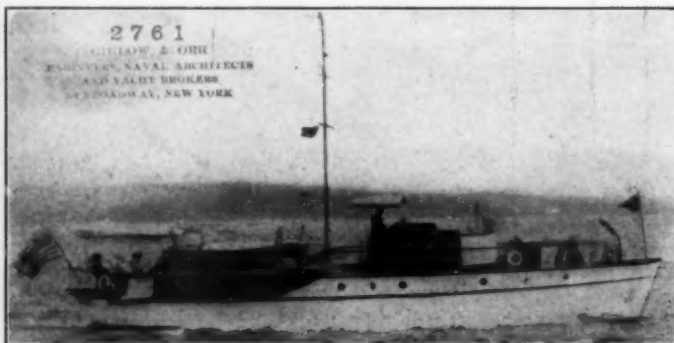
No. 3649.—Sale.—53 ft. x 11 ft. x 3 ft. 6 in.; built by Lawley, Fall 1911; new 20th Century 6 cyl. motor; perfect condition; nothing better available.

Please mention MOTOR BOATING.



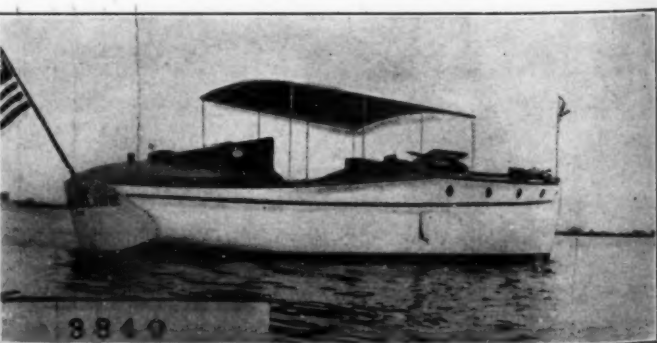
No. 3534.—Sale.—Auxiliary ketch, 88 ft. x 64 ft. x 17 ft. x 4 ft. 2 in. draft; built 1910; Standard engine.

Please mention MOTOR BOATING.



No. 2761.—Sale, Charter.—Low price; twin-screw; 62 ft. x 11 ft. x 4 ft.; 20th Century motors.

Please mention MOTOR BOATING.



No. 3849.—Sale.—36 ft. x 9 ft. 6 in. x 2 ft. 10 in.; built Fall 1911; Holmes' 4 cyl. motor, 25 H. P.; roomy; seaworthy; best construction and finish.

Please mention MOTOR BOATING.



# FRANK BOWNE JONES, Yacht Agent

29 Broadway, New York

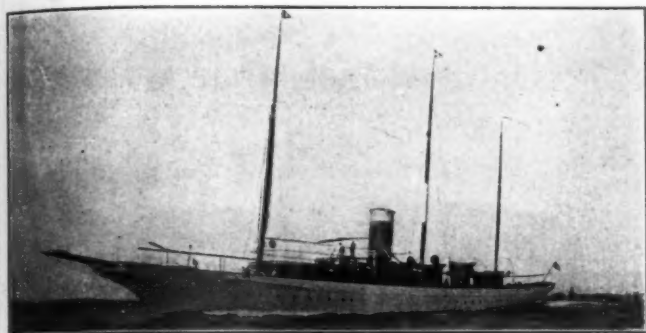
Telephone, Rector 3890

High Class Yachts of all types for sale and charter

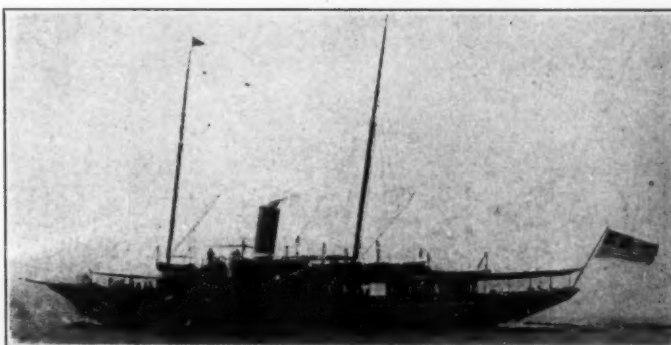
NAVAL ARCHITECTURE

MARINE INSURANCE

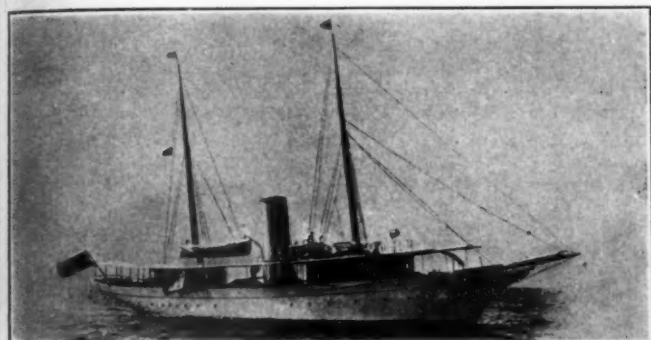
Let Me Know Your Requirements



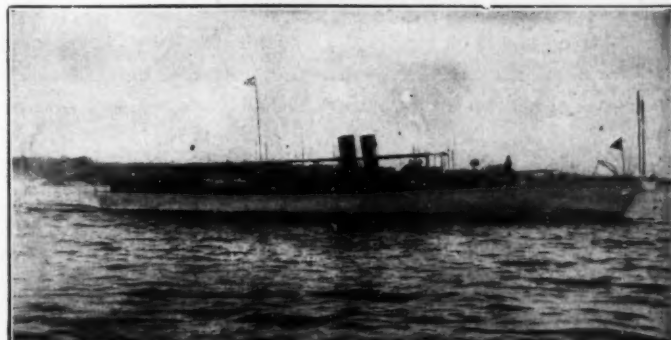
No. 49.—225 ft. twin screw steel steam yacht; the fastest vessel of the fleet; handsomely appointed; A-1 condition.  
Please mention MOTOR BOATING.



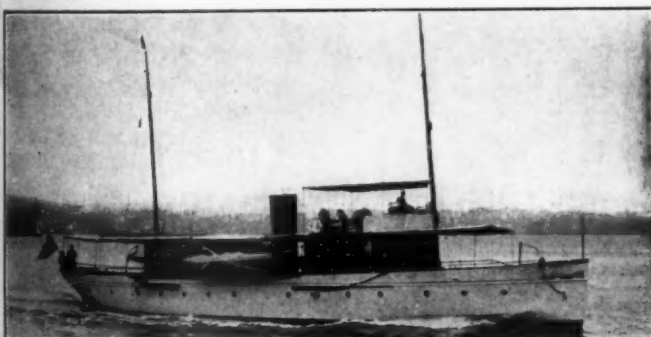
No. 4459.—200 ft. sea going steel steam yacht. Considered the finest vessel of her size. Available for purchase or charter.  
Please mention MOTOR BOATING.



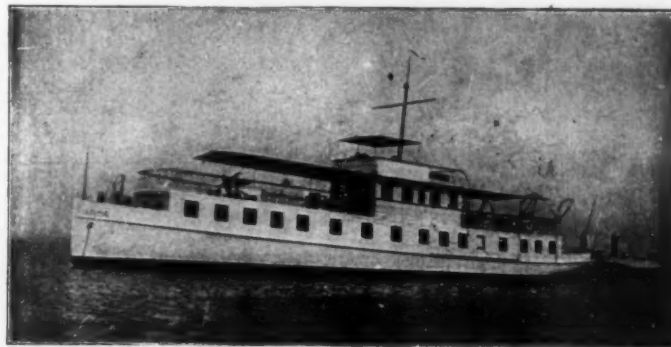
No. 4906.—140 ft. steel steam yacht; twin screw; up-to-date in every particular. For sale or charter.  
Please mention MOTOR BOATING.



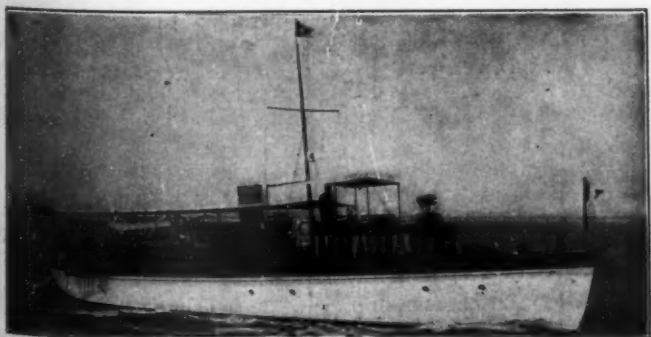
No. 2310.—110 ft. Express Steam Yacht, Seabury built; probably the fastest yacht of the type. Attractive price.  
Please mention MOTOR BOATING.



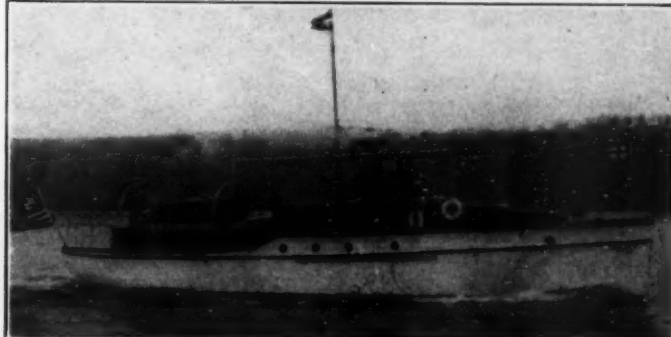
No. 5952.—100 ft. gasoline cruiser; latest design and build; twin screw; two Standard motors.  
Please mention MOTOR BOATING.



No. 5831.—110 ft. power house yacht; practically new; perfectly seaworthy; of best build; artistic interior decorations.  
Please mention MOTOR BOATING.



No. 6158.—75 ft. bridge deck cruiser; dining saloon forward; 3 staterooms and bath aft; Standard motor. Sale or charter.  
Please mention MOTOR BOATING.



No. 6093.—56 ft. bridge deck cruiser; practically new; good accommodations.  
Please mention MOTOR BOATING.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

TELEPHONE

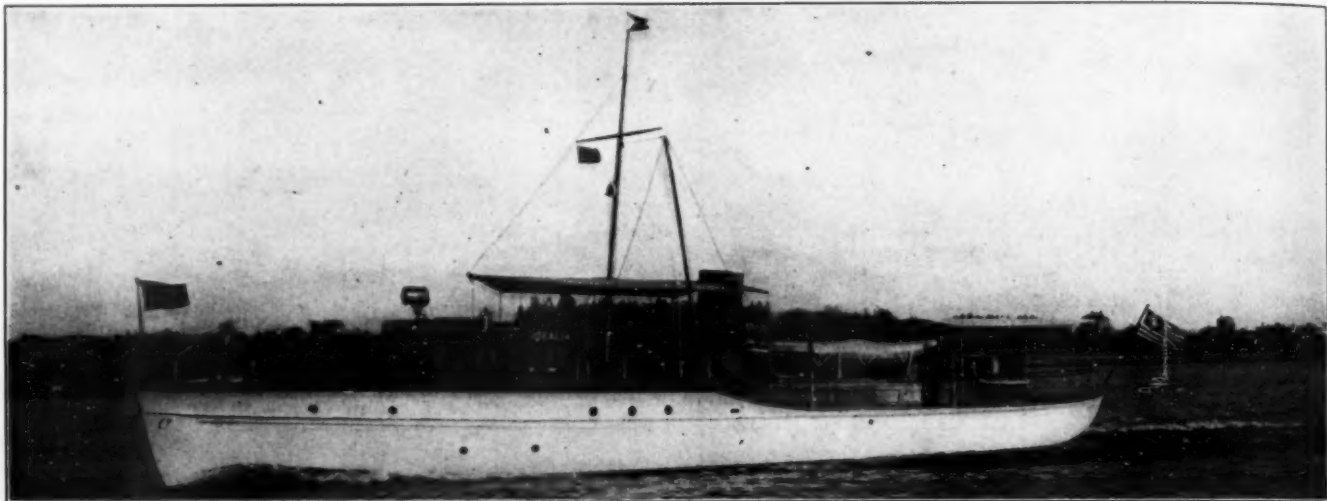
470 Bayonne

**Elco**

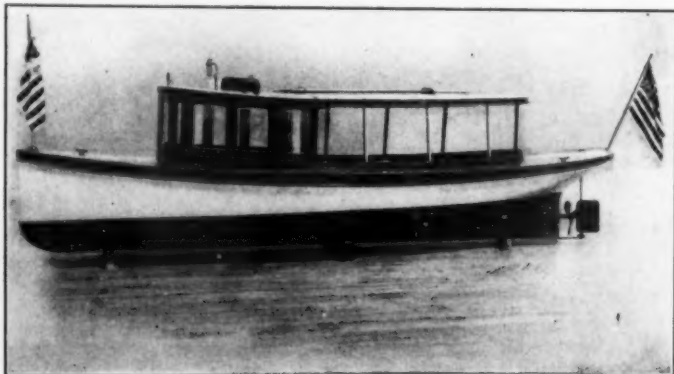
202 AVE A, BAYONNE, N. J.

27 Minutes from Liberty  
and 23rd St. Ferries,  
C. R. R. of N. J.  
to W. 8th St.

These boats can all be seen at our works, and the purchase made directly from us



No. 1.—New 84 ft. ELCO MOTOR YACHT; deck dining saloon, stateroom and bath; 150 H. P. heavy oil Deisel engine; fully equipped; speed 14 miles; immediate delivery.



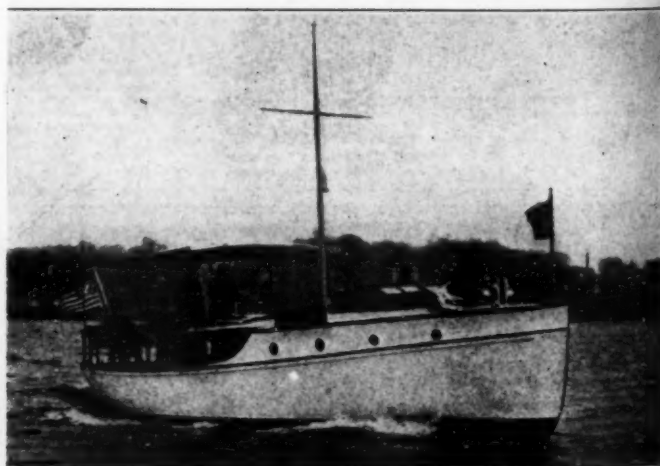
No. 2.—30 ft.; HALF CABIN HULL; can be equipped with any engine desired.



No. 3.—20 ft.; ELCO EXPRESS TENDER Boat and engine overhauled; speed 25 miles; bargain.



No. 4.—36 ft.; OPENED HULL; can be equipped with any engine desired.



No. 5.—40 ft. ELCO CRUISER. Built 1911. Sleeps seven. Standard engine.

USED ENGINES FOR SALE.

25 H. P. 4 CYLINDER AUTO MARINE STANDARD ENGINE.  
 NEW 36 H. P. 6 CYLINDER JENCICK ENGINE WITH REVERSE GEAR.  
 40 H. P. 4 CYLINDER PEERLESS MARINE ENGINE, OVERHAULED AND IN GOOD CONDITION.  
 SUBMIT OFFERS.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



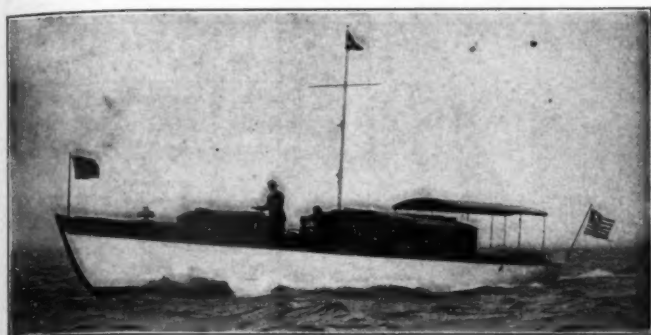
TELEPHONE  
470 Bayonne

# Elco

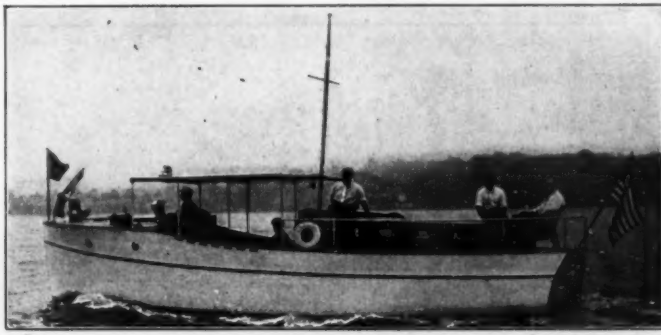
27 Minutes from Liberty  
and 23rd St. Ferries  
C. R. R. of N. J.  
to W. 8th St.

202 AVE A, BAYONNE, N. J.

These boats can all be seen at our works, and the purchase made directly from us



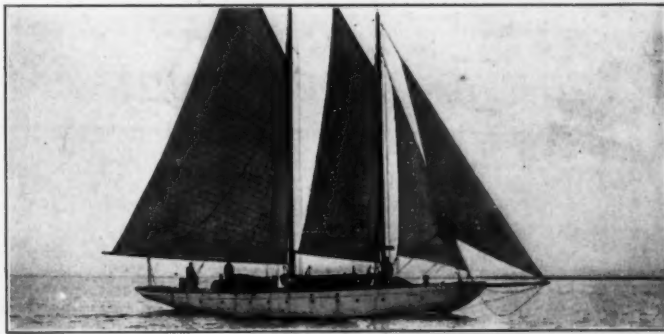
No. 1.—34 ft. ELCO DE LUXE. Self-starting Standard engine. Speed 16 miles.  
*Please mention MOTOR BOATING.*



No. 2.—36 ft. ELCO CRUISER. Bridge deck. Accommodations aft. Engine and Galley forward. A-1 condition. Speed 12 miles.  
*Please mention MOTOR BOATING.*



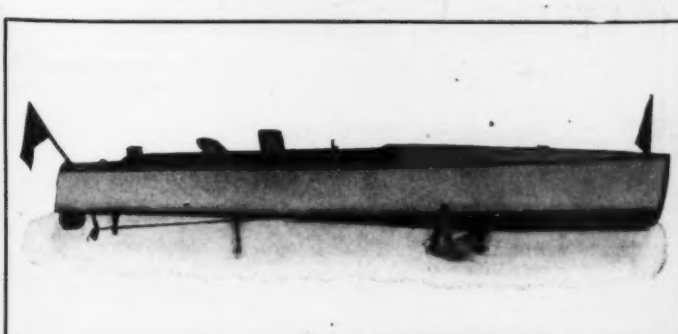
No. 3.—35 ft. ELCO EXPRESS. Six-cylinder ELCO engine. Speed 24 miles.  
Thoroughly overhauled.  
*Please mention MOTOR BOATING.*



No. 4.—60 ft. AUXILIARY SCHOONER. Beam 16 ft. Built by ELCO, 1909. Exceptionally strong and seaworthy.  
*Please mention MOTOR BOATING.*



No. 5.—28 ft. ELCO EXPRESS. Four-cylinder ELCO engine. Speed 20 miles.  
*Please mention MOTOR BOATING.*



No. 6.—28 ft. semi-speed; thoroughly overhauled; speed 14 miles. Bargain.  
*Please mention MOTOR BOATING.*



No. 7.—18 ft. launch, mahogany finish; boat and engine new.  
*Please mention MOTOR BOATING.*



No. 8.—20 ft. ELCO-PLANE. Built 1912. Speed 35 miles. Perfect condition.  
*Please mention MOTOR BOATING.*

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

Showrooms:  
132 Liberty Street, New York

Demonstrating Warehouse:  
325 Central Ave., Jersey City, N. J.

Marine Railway & Boat Yard:  
Foot East 40th & 41st Sts., Bayonne, N. J.

# BRUNS KIMBALL & CO., Inc.

Telephone, 2614 Rector

*The Largest General Marine Agents and Yacht Brokers*

132 LIBERTY STREET

High Grade Yachts and Launches For Sale or Charter

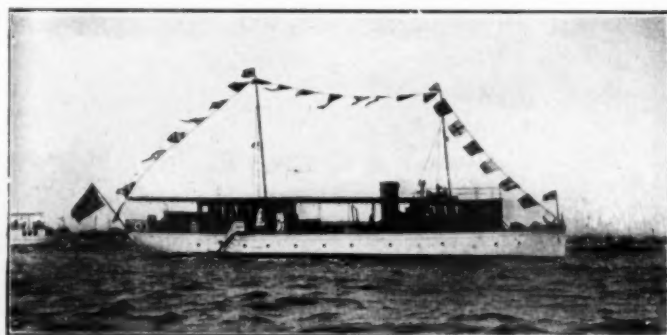
Over 2000 Listed

New York City

WE CAN REFER YOU TO OVER  
1,000 SATISFIED CUSTOMERS

IF YOU DESIRE TO DISPOSE OF YOUR YACHT,  
LAUNCH OR ENGINE, IT WILL BE TO YOUR  
ADVANTAGE TO COMMUNICATE WITH US  
IMMEDIATELY.

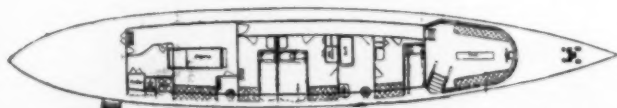
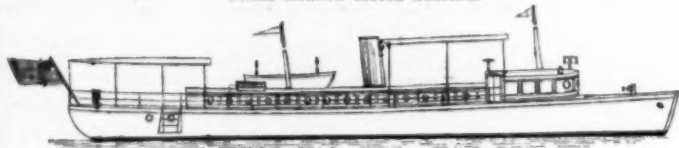
OUR BEST ADVERTISER IS A  
SATISFIED CUSTOMER



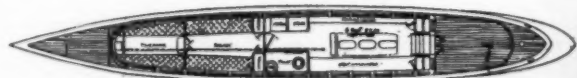
No. 12.—98 x 16 x 5½; built late 1910; two six cylinder 75 H. P. Standard motors; price attractive.  
*Please mention MOTOR BOATING.*



No. 5.—60 x 16 x 3½; built 1909; four cylinder Ralaco engine; 8½ miles under power; mahogany finish; every modern convenience; offer wanted.  
*Please mention MOTOR BOATING.*



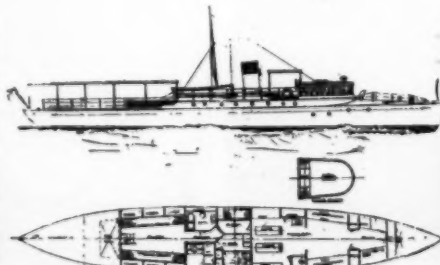
No. 9.—80 x 13½ x 3½; 100 H. P. 20th Century motor, 1912 model; better investigate this at once.  
*Please mention MOTOR BOATING.*



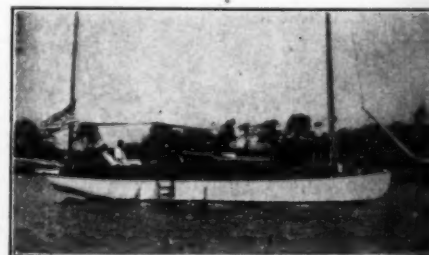
No. 10.—65 x 8½ x 3 hull only; built by New York Yacht, Launch & Engine Company 1907; mahogany finish; fully equipped; best offer over \$600.00 takes her; ideal boat for express use; better act quickly; will install any engine. Have over 150 to select from.



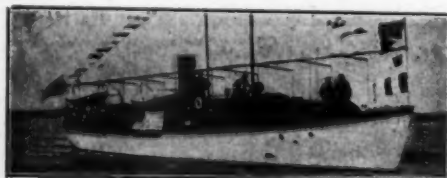
No. 8.—70 x 11 x 3½; built 1909; 75 H. P. Craig engine; price ridiculously low.  
*Please mention MOTOR BOATING.*



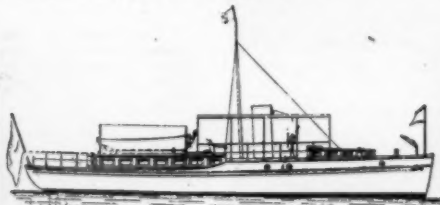
No. 11.—92 x 12 x 3 ft. 9 in.; built late 1907; two 90 H. P. Sterling engines; speed 15 miles; splendid accommodations; price will surprise you.



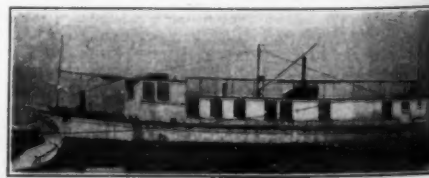
No. 4.—38 x 10½ x 3; 12 H. P. Standard engine; full head room; beautifully finished; good as new; \$7,100.00.  
*Please mention MOTOR BOATING.*



No. 13.—93 x 13½ x 4; built 1907; two 100 H. P. Standard engines; offer wanted.



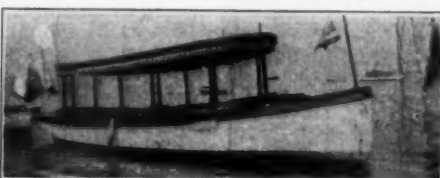
No. 7.—57 x 11 x 3½; built 1911; 25-35 H. P. Standard; cost over \$12,000.00; offer wanted.



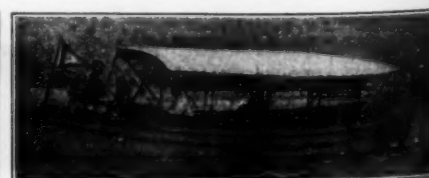
No. 6.—72 x 19 x 3; built 1907; two 30 H. P. Daimler engines; ideal houseboat; asking \$2,500.00.



No. 3.—47 x 10 x 3; mahogany and white enamel finish; perfect condition; 25 H. P. Globe engine, 1908 model; price \$850.00; act quickly.



No. 1.—32 x 8½ hull, repainted ready for water; \$275.00 will install any engine; have over 100 to select from.  
*Please mention MOTOR BOATING.*



No. 2.—29 x 7 hull; \$150.00; perfect condition; this is a bargain. Have also 21 x 5½ Atlantic Dory hull, \$65.00; all ready for engine.

*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.*



HENRY H. JENNINGS, 20 years } with the late MANNING'S YACHT AGENCY  
 HERMAN JAGLE, 14 years }

# Jennings Yacht Brokerage Company

AMERICAN AND FOREIGN YACHTS

Merchant Vessels for Sale and Charter

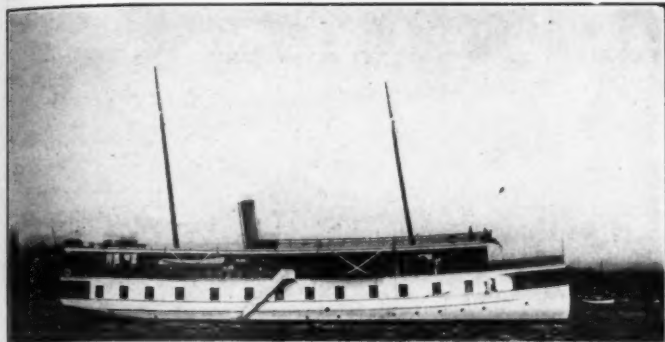
HAMBURG-AMERICAN BUILDING

45 Broadway, New York City

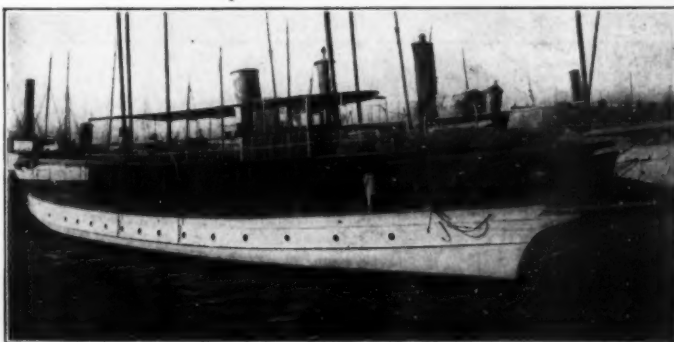
Surveying  
Marine Insurance

Telephone  
Rector 8545  
Cable Address,  
Yachtbroco, New York

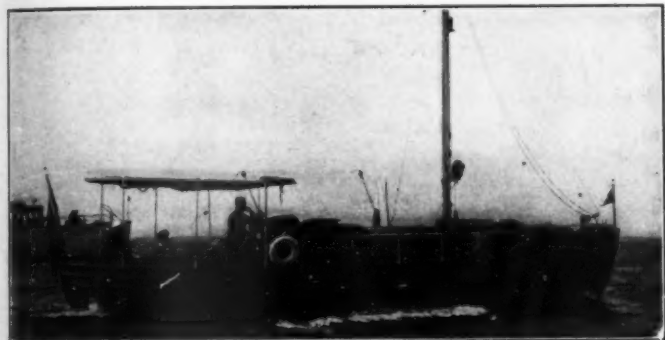
*Our list comprises all the available yachts for sale and charter. Below are a few of our offerings. If none of these appeal to you write us your requirements.*



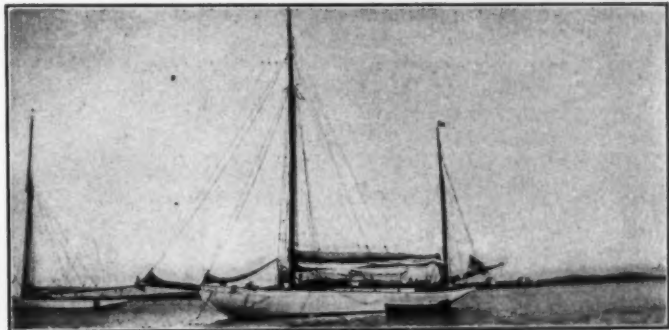
946.—Twin-screw steam, houseboat type; 125 ft.; exceptionally roomy; complete in every respect; price attractive.



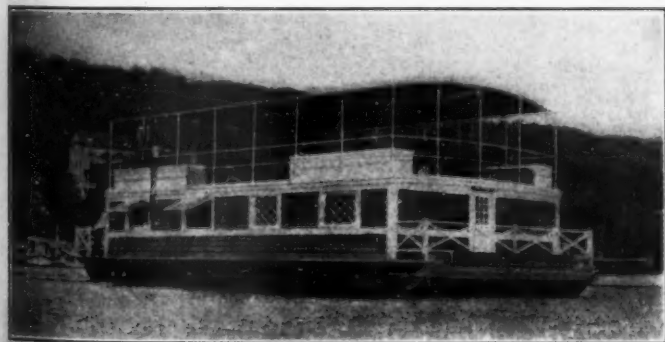
886.—Steam, 105 ft.; two double staterooms, four berths in saloon; beautifully furnished; must be seen to be appreciated; price exceptionally low.



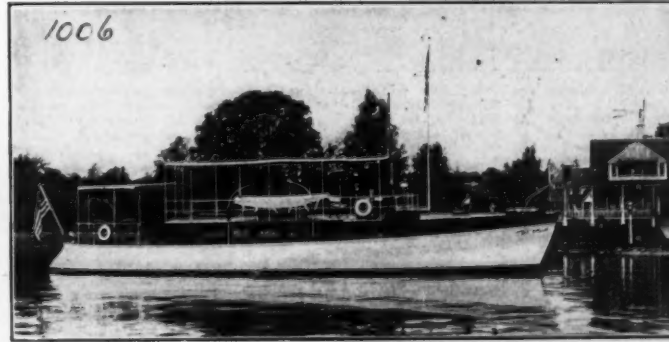
1088.—40 ft.; saloon sleeps five; toilet; 25 H. P., speed 10 miles. Price attractive.



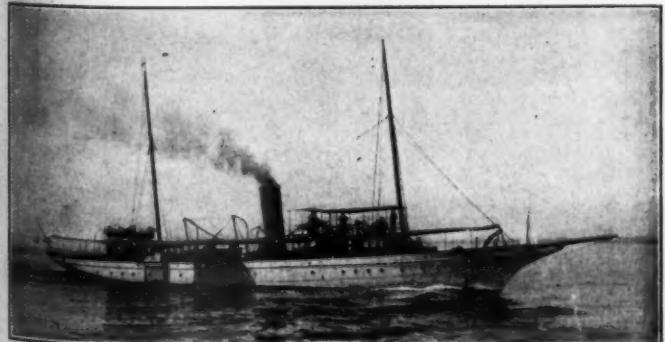
2996.—Auxiliary keel yawl, 72 ft.; two staterooms and saloon berth 5; two toilets; 30 H. P. motor, new 1911; speed 7 miles; price low.



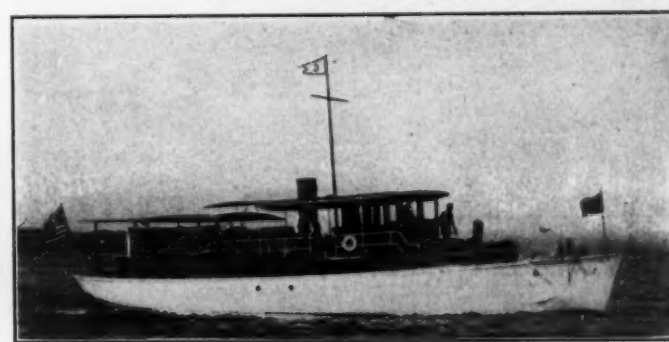
1944.—Sale or Charter.—40 ft. houseboat; two double, one single stateroom, large living room, bath, etc.; price attractive.



1006.—57 ft.; two staterooms; saloon berth 6; two toilets, etc. 50 H. P., speed 11 miles; like new.



2725.—180 ft. steam; splendid accommodation; perfect condition; speed 20 knots; price very attractive.



1333.—Twin-screw; 70 ft.; 3 staterooms.

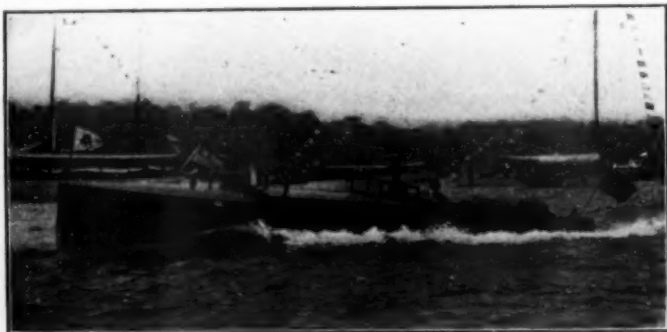
*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.*

# RELIANCE MOTOR BOAT CO.

## Builders of the Famous Peter Pans

Hydroplanes, Runabouts, Yacht Tenders, Cruisers. Reliance-Continental Motors—Best in the World  
207th STREET AND HARLEM RIVER Telephone 7510 Audubon NEW YORK CITY

Write us for list of second-hand boats and overhauled motors in prime condition.  
Tell us what you are looking for.



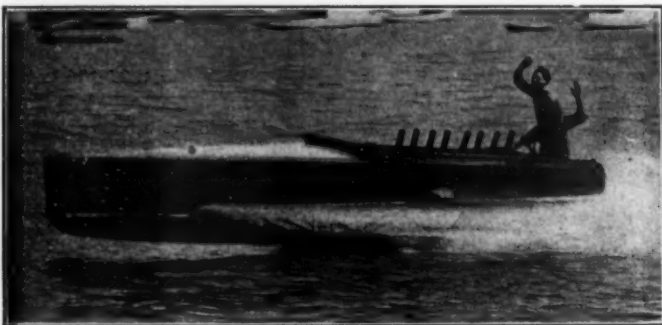
No. 91.—Magnificent 40 x 6.3 mahogany runabout; eight cylinder; 150 H. P. Sterling motor; speed 30 miles. Equal new. Complete fittings and furnishings. Sell two-thirds value.

Please mention MOTOR BOATING.



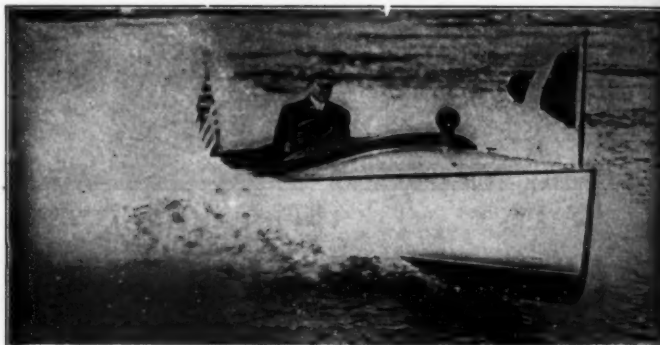
No. 90.—Peter Pan, Sr., day cruiser 40 x 7.9; magnificent mahogany; twin screw; two 50 H. P. Reliance-Continental motors. One man control. Every appointment. Cabinet for wines, silver, glasses, etc. Enclosed toilet room and lavatory. Running water. Pullman berth. Electrically lighted. Splendid sea boat. Speed 20 miles. Equal brand new. Winner National Championship, also Long Distance Race, New York Peekskill and return.

Please mention MOTOR BOATING.



No. 89.—Sensational Peter Pan V for sale. Winner International Championship. Best of all hydroplanes. Two watertight compartments; double planked bottom; batten seams throughout. Construction absolutely best. Perfect condition. New York Sun said she frightened all competitors out of National Carnival except Tech, Jr., which made fastest mile in the world; and she beat Tech.

Please mention MOTOR BOATING.



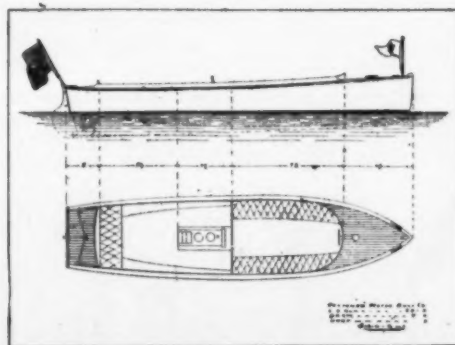
No. 72.—21 ft. runabout. Equal to brand new. Mahogany deck and transom, mahogany lazy backs, carries six. 24-28 H.P. Reliance Continental motor. Bosch magneto, rear starter; speed 21 miles.

Please mention MOTOR BOATING.



No. 87.—Duplicate "Peter Pan II"—28-footer. All mahogany, sides painted white, rest natural finish; 35 H. P. Mercury motor; rear starter; ran one season. Overhauled. Prime condition. Great bargains.

Please mention MOTOR BOATING.



No. 92.—Reliance family launch; 23 ft. long, 5 ft. 6 in. beam; carries ten in comfort; 2 cyl. Ferro motor, 11 H. P.; speed 12 miles; brand new \$725.

Please mention MOTOR BOATING.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



# A. J. McINTOSH YACHT AGENCY

Telephones —  
Broad 4886

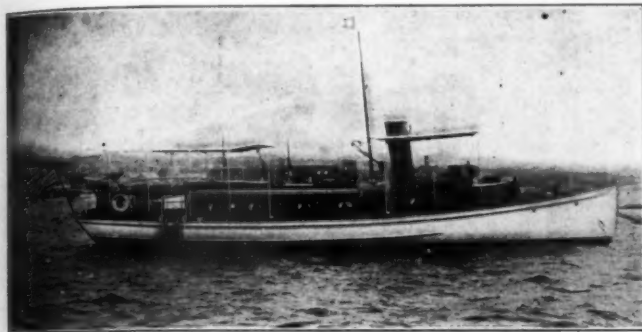
NEW YORK CITY

32 Broadway

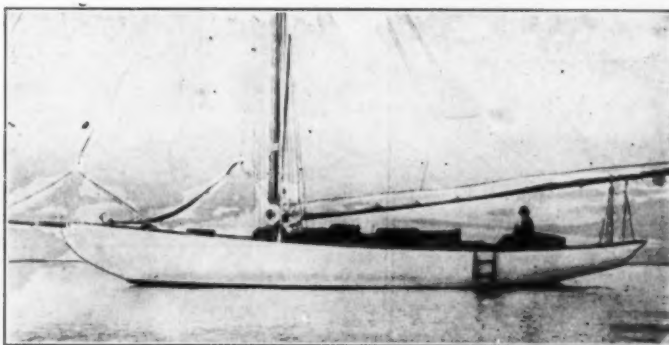
Highest Grade Yachts of All Types For Sale or Charter—  
Motor Boats—Steam—Houseboats—Sail Boats—Auxiliaries

Correspondence Invited - - - - - Descriptions Furnished

THE FOLLOWING ARE A FEW OF THE DESIRABLE BOATS WE HAVE TO OFFER.  
LET US KNOW YOUR REQUIREMENTS AS WE FEEL CONFIDENT WE CAN FILL SAME.



No. 1285.—53 ft. cruiser, 50 H. P. Standard motor; speed 12 knots.



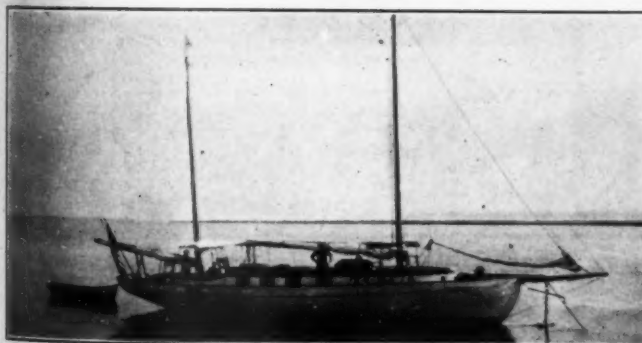
No. 1197.—43 ft. auxiliary sloop, unusually well equipped; power tender, etc.; extraordinary low price for immediate sale.  
Please mention MOTOR BOATING.



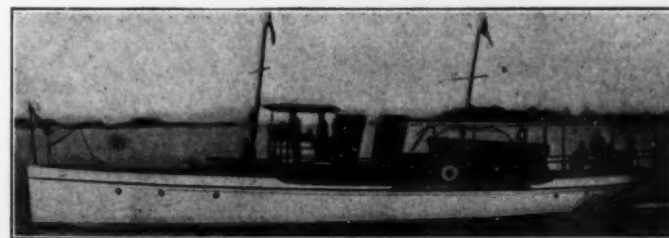
No. 1311.—30 ft. open boat; all equipment first class; engine only used a very short time. Unusual bargain.



No. 453.—37 ft. raised deck cruiser, 30 H. P. 1909 motor; recently overhauled.  
Please mention MOTOR BOATING.

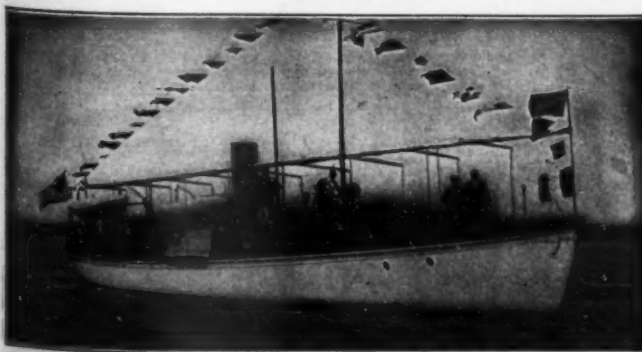


No. 1406.—56 ft. auxiliary yawl, 30 H. P. motor; one of the finest auxiliaries to be had. Reasonable price.



No. 1370.—Twin screw cruiser, 72 ft. x 12 ft. x 4 ft., built in 1911; interior beautifully finished in mahogany, teak decks; large afterdeck; double stateroom; two berths in dining saloon; four berths in cabin; two 4 cylinder Murray & Tregurtha engines. The boat is furnished in the most luxurious manner. Everything is of the best quality obtainable. Well ventilated. Heated and lighted by electricity. Price extremely reasonable.

Please mention MOTOR BOATING.



No. 1220.—Twin screw motor yacht, 93 ft. x 13 ft. 6 in. x 4 ft.; launched 1906; yellow pine planking, copper sheathed, substantially constructed; the boat is well ventilated, making it particularly desirable for southern cruising; all joiner work of solid mahogany. Arrangement: owner's quarters, double stateroom, with bathroom, adjoining; forward, main saloon has two double transom berths aft, also toilet room. Large galley connecting with saloon. Independent electric lighting plant, heating, etc. The boat is very well equipped, has mahogany launch and dingy. All conveniences, hot and cold water. Standard motor. Price moderate.



No. 903.—40 ft. cruiser in first class condition; price very low. 25 H. P. motor.  
Please mention MOTOR BOATING.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

NAVAL  
ARCHITECTS  
ENGINEERS  
YACHT  
BROKERS

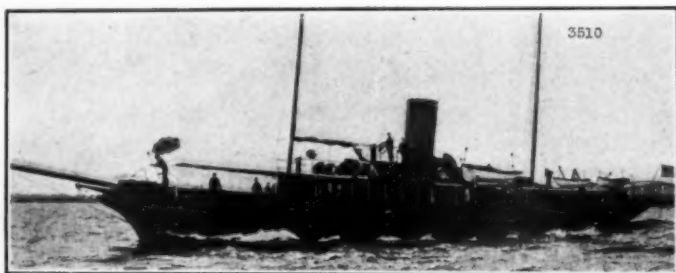
# WHITTELSEY & WHITTELSEY

MARINE  
INSURANCE  
AND  
INSPECTIONS

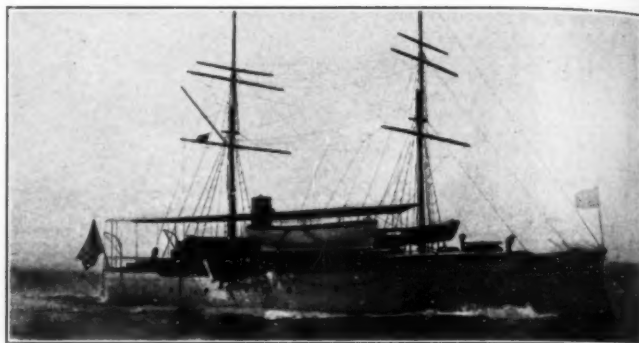
11 Broadway, New York

Telephone 4718 Rector

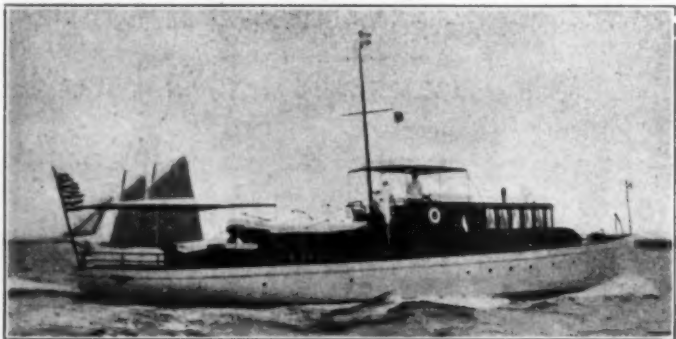
Write us fully as to your exact requirements especially mentioning the type, approximate dimensions, speed, and amount of accommodations, and we will then be able to intelligently select from our files, descriptions, blue prints, and pictures of such boats as will be sure to suit you. We offer below a few high-class yachts at very reasonable prices. Full particulars will be sent on application.



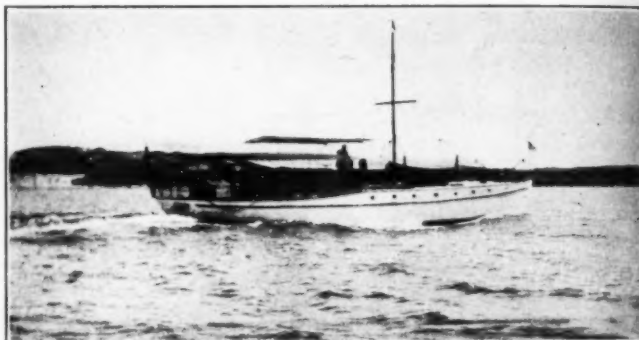
G-3910.—For Sale.—Very high class 190 ft. speedy steam yacht; one of the most desirable vessels in the fleet; price very reasonable.  
*Please mention MOTOR BOATING.*



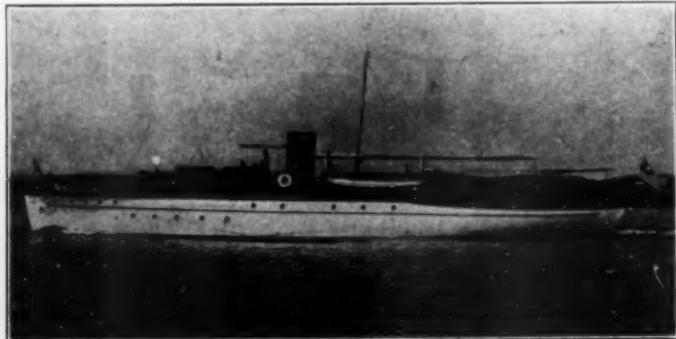
G-2607.—For sale.—Motor cruiser, 67 ft. x 13 ft. 6 in.; Sterling engine; excellent accommodations.  
*Please mention MOTOR BOATING.*



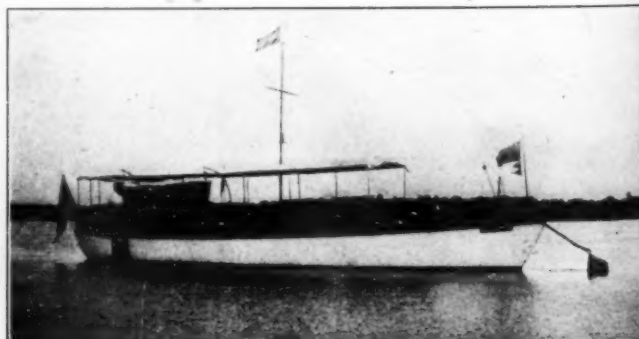
G-2803.—For Sale or Charter.—Very desirable motor yacht; splendid accommodations, 90 ft x 15 ft.; twin screw; now in commission.  
*Please mention MOTOR BOATING.*



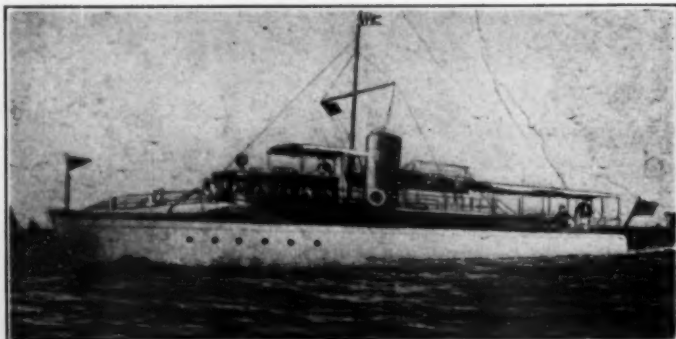
G-2667.—For Sale.—High class raised deck cruiser, 65 ft. x 14 ft.; Standard motor, 50 H. P.; excellent accommodations; splendid sea-boat.  
*Please mention MOTOR BOATING.*



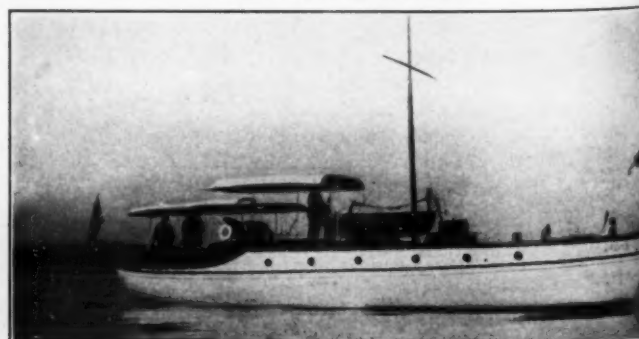
G-2839.—For Charter.—Handsome motor yacht; 98 ft. x 16 ft. 6 in.; our design; twin screw; in commission.  
*Please mention MOTOR BOATING.*



G-2650.—For Sale.—Bridge deck cruiser, 55 ft. x 10 ft.; 50 H. P.; 20th Century motor; unusual opportunity.  
*Please mention MOTOR BOATING.*



G-2813.—For Sale.—Handsome 90 ft., twin screw motor yacht; Sterling motors; any reasonable offer accepted.  
*Please mention MOTOR BOATING.*



G-2596.—For Sale.—Very desirable roomy cruiser; 55 ft. x 11 ft.; Standard motor; low price; owner anxious to sell; first class condition.  
*Please mention MOTOR BOATING.*

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



COLONIAL BLDG.  
BOSTON, MASS.

TELEPHONE  
OXFORD 4180

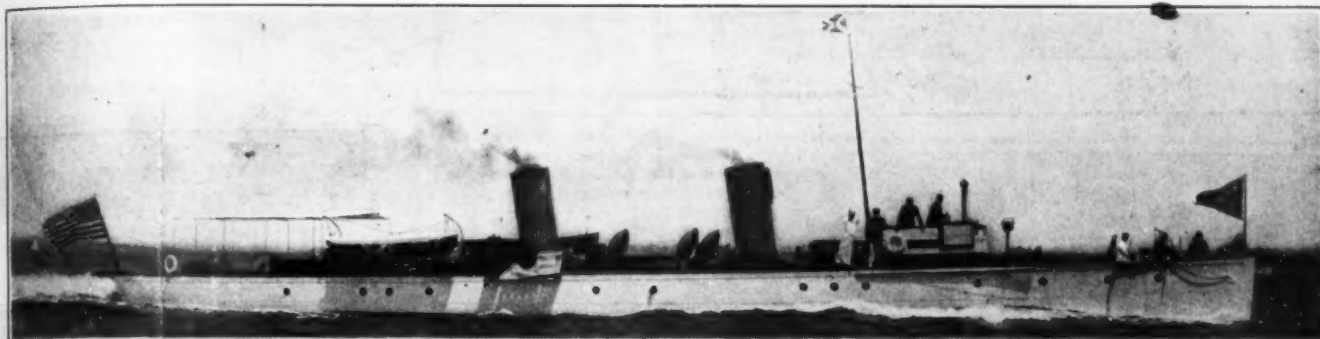
# Swasey, Raymond & Page

INCORPORATED

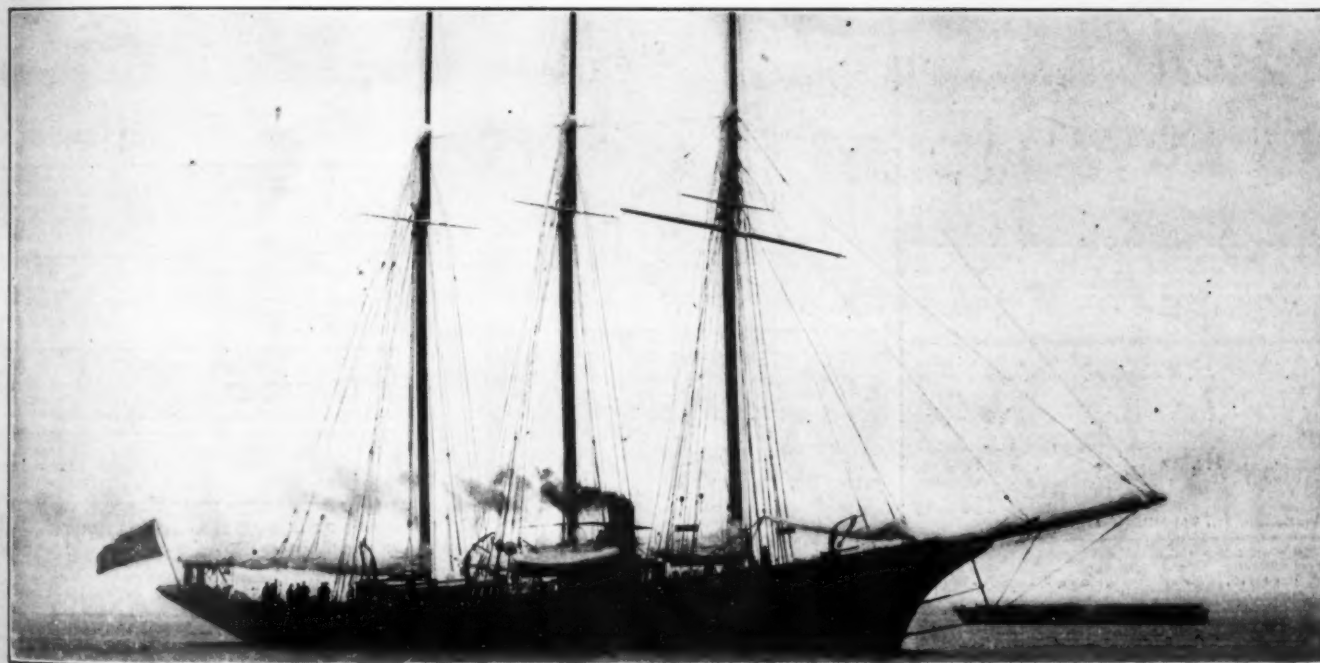
*Yacht Designers*

ESTABLISHED 1898

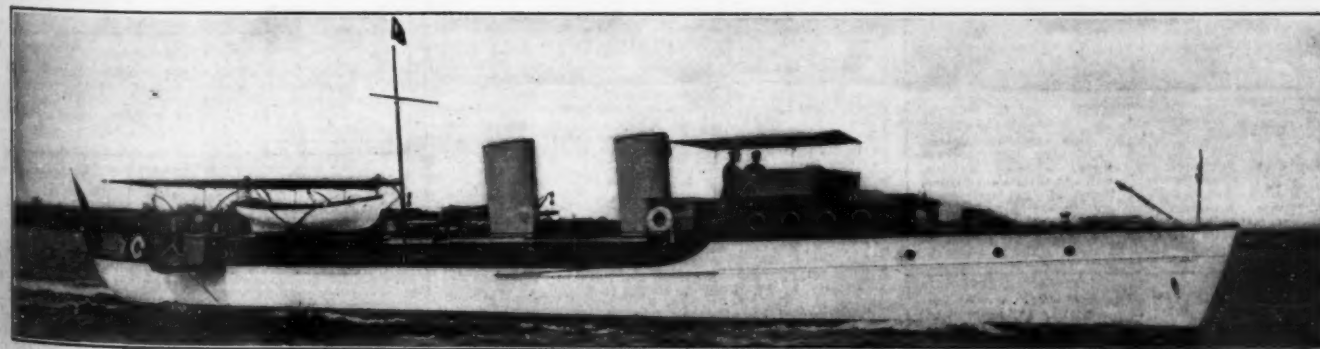
EFFICIENCY, DURABILITY AND PERFECT PROPORTIONS



"CIGARETTE," DESIGNED BY US, 1905.



"VISITOR II," DESIGNED BY US, 1908.



"NAVIGATOR," DESIGNED BY US, 1912.

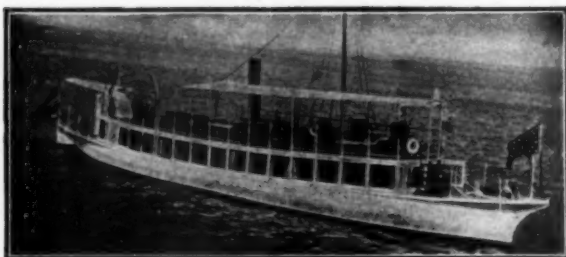
When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

## THE MOTOR BOATING MARKET PLACE

The rate for "For Sale" and "Want" advertisements is 5 cents per word. If an illustration is used the charge is as follows, which includes the making of the cut:  
 Cut one inch deep, one column wide.....\$2  
 Cut 1 1/4 in. deep, 1 1/4 columns wide.....\$3  
 Cut three inches deep, three columns wide.....\$10

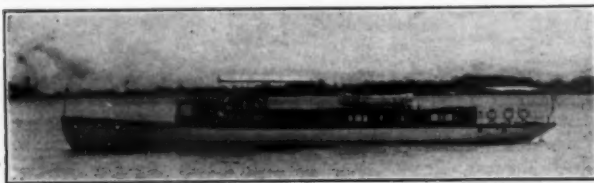
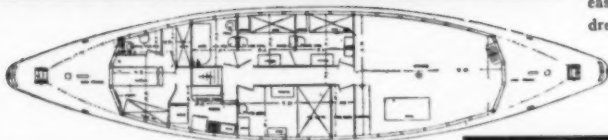
### Opportunities for the Motor Boatman

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention **MoToR Boating**.



#### FOR SALE OR CHARTER. CRUISING HOUSEBOAT.

80 feet long x 18 feet beam, practically new. Has all the conveniences of a city apartment—running water and acetylene gas in all staterooms—large saloon and promenade under awnings. Has far more accommodations and comfort than a yacht twice the size. Very easily and economically handled. Address Box 80, Motor Boating.



O. J. Mulford, 83 Fort St., West Detroit, Mich.



**FOR SALE**—Nearly new, 32 x 8.8 ft. raised deck cruiser, one man control, upper construction all mahogany; complete Fay & Bowen engines and outfit; for salt water. Electric lights, etc. Dr. J. A. Spengler, Geneva, N. Y.

**FOR SALE**—Fast runabout, 26 x 5 ft.; speed 18 miles per hour; 30 H. P. Loew-Victor engine; auto steering wheel and controls, glass spray shield; built of select juniper; brass and galvanized fastenings; finished in natural wood; boat and engine in fine condition; price \$700. R. T. Gallagher, Washington, North Carolina.

**FOR SALE OR TRADE**—Open launch 27 ft. x 5 ft.; 1912 30 H. P. 4 cyl. Mercury; canvas top; open launch, 22 ft. x 4 ft. 6 H. P. Lackawanna. Would consider trade on raised deck cruiser about 30 ft. x 8 ft. Geo. Washburn, Jr., Catskill, N. Y.

**BROKEN cylinders and crank cases welded.** Worn cylinders rebored. Scored cylinders repaired, \$12. See our ad, Page 126. Waterbury Welding Company, Waterbury, Conn.

**CYLINDERS REBORED**—Pistons and rings fitted, new cranks, connecting rods, cases, transmissions, any part for automobile or motor boat motor reproduced like original. Gear cutting of all kinds and materials. Send old part. The shop of quality. McCadden Machine Works, Minneapolis, Minn.

#### AUTOMOBILES.

**AUTOMOBILE**, Marine, Motorcycle Cylinders reground new pistons and rings fitted. Makes engine equal to new. Write for particulars. Cast Iron Brazing Co Manchester, N. H.

**FOR SALE**—Motor Boat "EMITA," 28 ft. long by 4 1/2 ft. wide, equipped with 12 H. P. Fairbanks-Morse, Balbridge Reverse Gear, C. A. V. High Tension Magneto, N. Y. C. Dashboard Coil, P. & E. Storage Battery, Flags and Flag Poles, Anchors, etc. Speed 12 miles an hour. Seaworthy and good family launch, in first-class order. Hull built of Cedar and Pine, Decks of Oak and inside of Mahogany. Round Stern and Bow. Apply to N. Asselin, Secretary-Treasurer, The St. Maurice River Boom & Drilling Co., Ltd., P. O. Box No. 1, Three Rivers, P. Q.

**A RELIANCE BARGAIN**—For Sale—Fast service mahogany runabout, 28 ft., o. a.; 4 ft. 3 in. beam, built by Reliance Boat Company, 40-50 1911 Continental engine, has not less run 350 miles; conservative speed 21 miles per hour; equipment complete to last detail. Boat like new; cost \$3,400, will sell for \$1,500. Can be seen by appointment. F. R. King, Room 502, 1493 Broadway, New York City.



**N. O. 2152**—For Sale—Raised deck cruiser; 18.9 x 6 x 1.4 ft. draft; built 1911; 4-5 H. P. Bridgeport motor; 2 berths in cabin; complete equipment; in first-class condition; low price. Apply to Cox & Stevens, 15 William St., New York.



17 ft. stepless Hydroplane, 25 to 27 mile speed; 25 H. P. three cylinder Pierce Budd engine, Bosch magneto; hull best oak and cypress construction, mahogany decks and finish; self aligning bronze strut and bearings; brass screw fastened throughout; used only half dozen times; price \$700 cash. Can be seen at Evanston Yacht Club, Chicago. Address Stewart, 16 Balmoral Place, Winnipeg, Canada.

**FOR SALE**—\$125. 14 H. P. Wat 2 cycle 3 cylinder engine in perfect condition, with Geis clutch, shafting, boxing propeller. Perfect ignition, Marvel carburetor, complete. Has been used about six months and has made 7 miles in a 30 x 8 ft. cruiser. Sold only because more power wanted. C. S. Sargent, 2117 Talbot St., Indianapolis, Ind.

**FOR SALE**—38 ft. Racine cruiser, better condition than new; new 30 H. P. Holmes motor installed last September; speed about 9 1/2 miles; owner selling only on account of having purchased larger boat; can be seen at Pearce's Dock, Wakefield, R. I. For price and full particulars apply to Edw. L. Welsh, 304 Walnut Street, Philadelphia, Pa.

**FOR SALE**—Two wholesome cabin cruisers; one 35 x 8 x 2 1/4, 14 H. P. motor, electric lights; other 40 x 9 x 3, 17 H. P. motor; excellent condition; complete inventories. I. M. Thompson, Velati Building, Washington, D. C.

**FOR SALE**—One 12 H. P. Harthan reverse gear, in perfect order, with flange coupling, ready to connect to any engine. Price \$12.00. Address J. S. Gaffa & Co., Greenport, Suffolk Co., N. Y.

#### A BARGAIN FOR SOME ONE.

A 32 x 9 glass cabin cruiser; 10 H. P. 4 cycle Palmer engine with reverse gear, pilot house controls; equipped with galley, stove and toilet; will sleep four comfortably; has full inventory, including searchlight, cushions, lights, life preservers, etc. This boat should be seen to be appreciated; boat can be seen at Haff's Boat Yard, Babylon, L. I.; photos and further information will be cheerfully furnished by owner; price \$950.

**BENJ. A. POWELL**,  
No. 634 McDonough St., Brooklyn, N. Y.  
Phone No. 3749 Bushwick.

#### ACT QUICK OR YOU WILL LOSE THEM.

100 H. P. 6 cyl., 8 x 10 Standard engine, 1910 model, magneto and reverse gear attached and full equipment .....\$1,000  
 75-90 H. P. 6 cyl. Standard, 1911 model, full outfit, good as new .....1,000  
**BRUNS, KIMBALL & CO., INC.**  
 132 Liberty Street, New York.

**WANTED**—Cruising yacht or auxiliary over 35 feet. Send description and photograph; will give big value in my high-grade automobile. Health demands that I get salt air reason of exchange. W. E. Baume, 722 Clifton Ave., Newark, N. J.

#### SITUATION WANTED.

Marine gas engineer with 14 years' experience and unlimited Engineer's License wishes a position as engineer on a yacht or commercial motor boat; can furnish best of reference if necessary; willing to go anywhere. Address A. K., care of Motor Boating.

**FOR SALE**—20 ft. 6 H. P. launch, \$100. 20 ft. 1 H. P. dory, \$75. 2 H. P. four cycle engine, \$40. R. H. Bartholomew, Minneapolis Journal, Minneapolis, Minn.

**FOR SALE**—8-10 H. P., 2 cyl., 2 cycle; gear in harness; under water exhaust; everything complete; fine condition; \$250 outfit for \$95. F. C. Eldred, Petoskey, Mich., 125 W. Lake St.

**A SECOND** hand Jager motor in good running order, complete with reverse gear; 3 cylinder, 4 cycle, 11 horse power. Will sell at a bargain. W. H. Moreton, 218 State St., Boston, Mass.

**HUNTING** cabin cruiser, 38 ft. long; 9 miles an hour; for sale at real sacrifice as owner is unable to use it. Complete equipment, tender, electric lights, searchlight. Gilbert M. Tucker, Jr., Box 74, Albany, N. Y.

**FOR SALE**—30 ft. V-bottom runabout, counterpart of Harvard coaching launch; 18-25 Sterling engine, speed 22 miles. Price \$900. Apply Oscar Anderson, Norwalk, Conn.

**WANTED**—An auxiliary cruiser under 65 ft. over all. Also a cruiser or auxiliary cruiser about 40 ft. over all. These must be in perfect condition and BARGAINS. M. Fergusson, Naval Architect and Yacht Broker, Southport, North Carolina.

#### FOR SALE.

8 H. P. reverse gears, new and second-hand, standard make, 2 in. Schebler carburetors; also lubricators and propellers. Black Rock Machine Co., Bridgeport, Conn.

**WANTED**—Gasoline engine, 2 cylinder, 6 or 7 H. P.; also 4 H. P. Ferro; state particulars. Arthur Peters, Battle Creek, Mich.

#### RARE BUSINESS OPPORTUNITY.

The oldest, best established and best located marine and stationary gasoline engine sales and repair business in the South is for sale because the owners wish to retire. No use to talk or write without having \$20,000.00 cash capital. Address Box 17, care of Motor Boating, 311 Fourth Avenue, New York City.

**FOR SALE**—Burgess Cutter, 30 x 22 x 7 1/4 x 4 1/2; sound, able, fast cruiser, modern rig, two suits of sails; about 800 lbs. lead inside, 3,000 lbs. iron outside; located on Lake Champlain; price \$200; great bargain. Owner has no further use for her. For particulars address P. O. Box 276, Plattsburgh, N. Y.

#### FOR SALE.

21 ft. x 5 1/2 ft. x 18 in. draft runabout launch with 8 H. P. Ferro double cylinder engine, complete outfit, two years old; engine forward in closed compartment; cost \$650, will sell for \$375; a rare bargain. O. K., Box 201, Westhampton Beach, Long Island, N. Y.

#### FOR SALE!

2 H. P. marine engine, in good condition. Price \$18.00. Frank J. Mayer, No. 6 Shenango St., Greenville, Pa.

**FINE** 22 ft. open launch, complete with 7 H. P. Ferro engine and McClellan automobile top; one year old; splendid condition; price low. Box 26, Verplancks, N. Y.

**FOR SALE**—One 10 H. P. 2 cylinder 2 cycle Eagle engine, complete with the following equipment, and in good running order, reversing gear, 4 1/2 feet 1 1/4 in. brass shaft, one brass stuffing box, one 20 in. 3-blade brass propeller, 2 1/4 in. Kingston carburetors, oil and grease cups. Price \$75.00. Address Frank Kelen, Riverhead, Suffolk Co., N. Y.

When writing to advertisers please mention **MOTOR BOATING**, the National Magazine of Motor Boating.

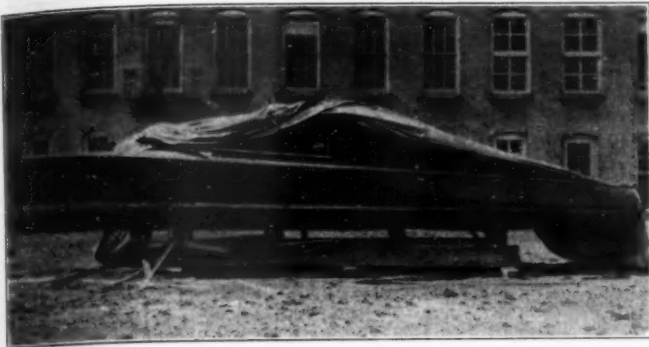


## THE MOTOR BOATING MARKET PLACE

The rate for "For Sale" and "Want" advertisements is 3 cents per word. If an illustration is used the charge is as follows, which includes the making of the cut:  
 Cut one inch deep, one column wide..... \$2  
 Cut 1/2 inch deep, 1/2 column wide..... \$3  
 Cut three inches deep, three columns wide..... \$10

### Opportunities for the Motor Boatman

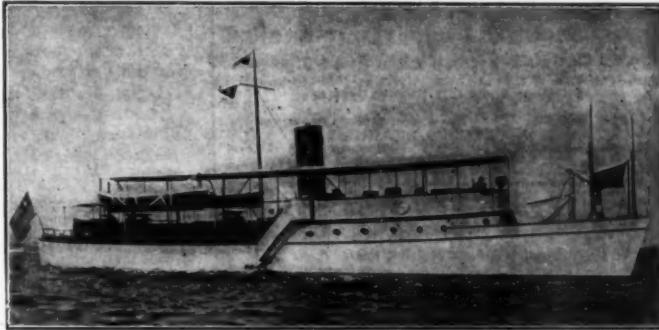
Before you buy or before you sell, examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention **MoToR Boating**.



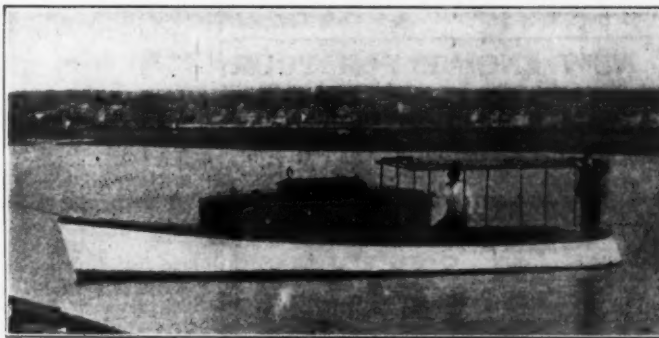
**GENTLEMAN'S** runabout, 16 miles; mahogany hull, bronze fittings, auto wheel; 20 H. P. Brownell motor, Bosch magneto, \$500. Address P. Billhuber, care of Steinway & Sons, Long Island City, N. Y.



**FOR SALE**—Exceptional opportunity. This safe and seaworthy auto runabout and 1 day cruiser equipped with every comfort and elaborately furnished. Designed by Skene, of Boston, and powered with a magnificent 30 H. P. 4 cylinder motor, self-starter and every modern device for safety and comfort. Speed from 0 to 19 miles, as desired. Condition perfect. Dimensions, 34 ft. x 6 ft. Seats 15 people. Price right for quick sale. This is not a cheap boat. If you are looking for Elco or Seabury quality at a saving of \$1,000, write. Brokers wishing to list this boat, write. F. E. Hill, Imperial Furniture Co., Grand Rapids, Mich.



**NO. 1406**—For Sale.—92 foot sea-going cruising yacht; 20th Century motor; best furnished and fitted yacht of her size on the coast. Gielow and Orr, 52 Broadway, New York.



**For Sale**—Torpedo stern hunting cabin semi-cruising launch. Hull 35 x 6 1/2 ft. Cabin 13 x 6 ft. Toilet and mahogany lavatory. Large mahogany skylight. Electric lights. Lockers. 27 h.p. Lackawanna engine, four cylinder, Hydrex silencer, Paragon reverse gear, Apple dynamo, storage battery, voltmeter, brass running lights, life preservers, flagpoles, icebox, etc., etc.  
 A good sea boat, speed about 10 to 12 miles, only four years old, and in perfect condition. \$300. A bargain. Apply to S. D. Shipley, 147 Grove Street, Stamford, Conn.

#### WELDING.

Cracked Cylinders and all Broken Castings in any Metal **SECURELY WELDED** and **GUARANTEED** at about one-half the cost of a new part. **NATIONAL Welding & Mfg. Co., Incorporated**, 527 Jackson Blvd., Chicago, Ill.

Eighteen Horsepower Standard, 3 cylinder .....	\$375
Fourteen Horsepower International, 2 cylinder.....	125
Seven Horsepower Baldwin .....	45
Seven Horsepower Stamford .....	40
Seven Horsepower Truscott .....	35
Three Horsepower Lathrop .....	40

E. E. PALMER, 31 East 21st St., New York.

**FOR SALE**—20 ft. Tuttle, open boat, equipped with two cylinder, 9 H. P. 1912 model Lackawanna engine and Joe's reverse gear; cushions, life preservers, folding anchor. First class condition. Now at Whitehall, N. Y. Price \$275. F. R. Schoonmaker, Stratford Road, Schenectady, N. Y.

**FOR SALE**—One 20 H. P. 4 cylinder Continental, \$155. One 25 H. P. 4 cylinder Northway, \$180. One 45 H. P. 4 cylinder American-British, \$265. Write for photo and description. Ferguson, 4191 W. Bell Pl., St. Louis, Mo.

**MOTOR** and sail boats for sale and to let, suitable for Great South Bay; special bargain, 26 ft. power boat, cruiser or day boat. Frank M. Weeks, 272 River Ave., Patchogue, L. I.

**FOR SALE**—Safety rear starter. Brand new. Will fit any engine. Worth \$14, will sell for half. Ferguson, 4191 W. Bell Pl., St. Louis, Mo.

**BUYERS—SELLERS.** Small craft fetched or delivered ANYWHERE. Sailed, run or TOWED. Capt. Pearson, Great Kills, Staten Island, N. Y.

**CANADIANS.** Second-hand engine bargains. Send for list. Guarantee Motor Company, Hamilton, Ont., Canada.

**USE "SWAPPER" ENGINES** for your small boat. They are a big little engine built by The Automatic Machine Co., Bridgeport, Conn.

#### FOR SALE.

Boat and engine works, with full line of machinery and equipment in excellent condition; for manufacture of boats and gasoline engines; buildings in first-class order; size nearly one hundred feet square, two stories, possessing excellent water-front on St. Lawrence River in vicinity of Thousand Islands.

Also complete patterns for high grade two-cycle gasoline motors in sizes ranging from 2 to 120 horse power from one to six cylinders.

A large business has been conducted at this establishment and the reasons for selling are of a private nature.

This property will be offered at a great sacrifice. Address all communications to Box 25, care of Motor Boating.

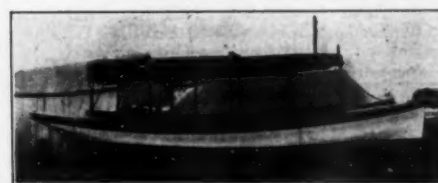
**I HAVE** secured the unsold 1912 product of prominent marine engine company. Can therefore sell the few remaining at prices that are right. Full factory guarantee. Four cylinder, 4 cycle, 60 H. P. medium duty. Single cylinder, 4 cycle, 6 H. P. medium duty. Also 1911 4 cylinder, 40 H. P. Trubert, 3 x 5 in. One 1912, 4 cylinder, 2 cycle, 24 H. P. Waterman. An exceptionally high grade 100 H. P., 4 cylinder, 4 cycle racing engine built by the best shop in the country; duplicates in famous racing boats. "Exceptional," care **MoToR Boating**.

**NEW 24 H. P., six-cylinder Elbridge engine, just from factory.** Aluminum manifolds, base and cylinder heads, extra finish throughout. Built for Mr. Coleman of Port of Wilmington, Del.; exchanged for a larger power. Price \$700. Emerson Engine Co., Alexandria, Va.

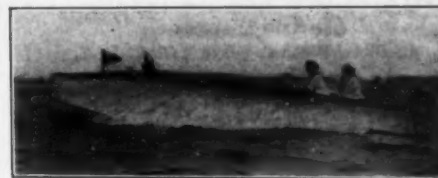
**FIRST** check for \$350 takes 22 ft. Lozier built motor boat, 7 1/2 H. P. Buffalo engine. Cost \$850. Substantial and comfortable. Speed 9 miles. Is in commission and can be demonstrated. Am buying faster boat. F. O. Grattan, Red Bank, N. J.

One Model B, 25 H. P. Sterling engine, 4 cycle, 4 cylinder, bore 4 1/4, stroke 5 1/2, with Bosch magneto, aluminum base, bulkhead spark and gas control, reverse gear and clutch; in first class condition, having been run only two seasons. Only object in selling is to get larger engine. Address "Braiduct," care of Motor Boating.

**FOR SALE**—A 24 ft. Mullins' runabout, two cylinder, two cycle, 14 H. P.; long inventory list; used two seasons; fine condition; owner buying cruiser. Stevens, 57 East Woodbridge, Detroit, Mich.



**FOR SALE**—Family launch, 25 ft. x 6 ft. 6 in.; standing roof; 10 H. P., 2 cylinder Palmer engine, fresh from factory; built in Cos Cob; full modern equipment; 9 to 10 miles; cost over \$1,000; sell about half. Chas. G. Bliss, Essex, Ct.



**TWENTY** foot hydroplane, almost new; thirty horsepower; mahogany decks, cushions; will sell about half cost. R. M. Hunter, P. O. Box 1047, Philadelphia, Pa.

#### ELCO EXPRESS LAUNCH.

35 ft. six-cylinder, 60 H. P., 22 to 24 miles; used only a few months in fresh water; machinery perfect; woodwork like new; price only \$2,500 as I wish to make quick change to cabin launch. Stored and shown by Chas. L. Seabury & Co., Morris Hts., N. Y. City. Write owner for pictures. E. A. Strout, 420 Riverside Drive, New York.

#### FOR SALE.

**FOR SALE**—New motor boat, 34 x 6 1/2 ft.; 4 cylinder 4 cycle engine, speed 12 to 14 miles; large roomy cockpit and Summer cabin. Asa B. Smith, 56 Amity St., Patchogue, L. I.

When writing to advertisers please mention **MOTOR BOATING**, the National Magazine of Motor Boating.

## NAVAL ARCHITECTS & YACHT BROKERS

**ARTHUR BINNEY**  
Successor to EDWARD BURGESS  
**NAVAL ARCHITECT AND YACHT BROKER**  
Mason Building, 70 Kilby St., Boston, Mass.  
Agent for The Standard Marine Motor, The Commercial  
Acetylene Co. (Safety Storage System.)  
Offices, 2702, Main. Residences, 8023-S, Brookline.  
**YACHT BROKERAGE DEPARTMENT:**  
Commission on Sales, 5 per Cent. Commission on Charters,  
10 per Cent.

## BOWES & MOWER

Naval Architects and Engineers  
Yacht and Vessel Brokers  
Office, Lafayette Bldg., Chestnut and Fifth Streets  
Bell Phone PHILADELPHIA, PA. Cable Bomo

## BREESE & BREESE

Designers and Builders  
**Motor Boats and Gas Engines**  
**HYDROPLANES**  
38 East 23rd St., New York City

## A NEW ENGINE FOR YOUR PRESENT ONE

BRUNS, KIMBALL & COMPANY, INC., 132 Liberty Street,  
New York City, will make you a most liberal allowance on  
your present engine in exchange for a new one. Let us  
know your requirements.

OVER 2,500 YACHTS AND LAUNCHES FOR SALE.

## COX & STEVENS

Engineers and Naval Architects  
Yacht Brokers  
15 WILLIAM STREET, NEW YORK CITY  
TELEPHONE 135 BROAD

## JAMES CRAIG

827-841 Garfield Ave., Jersey City, N. J.  
Tel. 2327 Bergen.

DESIGNER AND CONSTRUCTOR OF  
MARINE GASOLINE ENGINES AND  
SPECIAL MECHANISMS, SEVEN TO  
THREE HUNDRED HORSEPOWER



**Joe Fellows**  
Yacht and Launch Co. Inc.  
ARCHITECTS and ENGINEERS  
4 Railways 60 to 300 Ton  
Wolverine Eagle Campbell  
LOS ANGELES WILMINGTON SAN DIEGO

## GIELOW & ORR

Naval Architects, Engineers and Brokers  
Marine Insurance  
82 BROADWAY, NEW YORK, N. Y.  
Telephone 4678 Broad

Plans, Specifications and Estimates furnished for all require-  
ments. Descriptions and Photos submitted upon receipt of  
inquiry.

ORIGINAL "V-BOTTOM" MOTOR BOATS

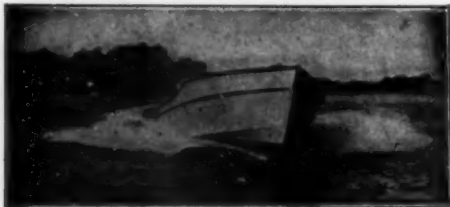


FIGURE 11—A notable 34' "Hand V-Bottom," which has  
made good on all waters. A real salt water sea boat, with  
speed and comfort.  
YOU CAN BUILD ONE. THERE IS NO STEAM BENDING.  
Send stamp for illustrated circular.  
WM. H. HAND, JR., NAVAL ARCHITECT,  
New Bedford, Mass.  
I can also supply a limited number of complete boats built  
to order.

## The Meet at Monaco.

(Continued from page 5)

copper water jackets, they have common over-  
head valve gear enclosed by a single aluminum  
housing. Each set of four has its own car-  
buretor and intake manifold on the right-hand  
side, but the eight exhaust pipes come out direct  
from the ports on the opposite side. The mo-  
tor developing 600 horsepower and the boat  
having a speed of nearly 50 knots an hour,  
Skisc should be a really serious competitor  
for the Frenchmen.

Despujols has four boats in the racer class:  
Flambeau, Sigma IV, Socram I and Seminole.  
The latter cannot be considered as a racer, but  
the three others are really speedy craft. Flam-  
beau is one of the most pleasing boats in the  
exhibition. Her lines have a very great simi-  
larity with those of the Duke of Westminster's  
Ursula, a boat which has not put in an appear-  
ance this year, and, according to her builder,  
she will be decidedly faster than the English  
racer. Flambeau carries a six-cylinder Des-  
pujols motor, exactly similar to that aboard  
Santos-Despujols, and, like it, is set three or  
four inches out of the longitudinal center line.

Socram I and Sigma IV are fiddle type dis-  
placement boats, having everything of the  
hydroplane except the step. Sigma IV, of  
course, is a development of last year's Sigma  
III, which was also raced by Ricardo de Sori-  
ano. Her power plant consists of a four-  
cylinder Despujols of the same bore and stroke  
as the big six aboard the hydroplanes, and  
having exactly the same method of installa-  
tion out of the center line. Socram I only  
differs by reason of the size of the motor, the  
dimensions being 4 by 8.8 inches. Tellier has  
two boats in this class: J'en Veux and Na-  
Roche, both with engines by Janvier-Picker.

The German element is represented by Lurs-  
sen's Annette III, engined by Sauer. The boat  
is the natural successor of last year's Lurs-  
sen, and will doubtless have that boat's peculiarity  
of running with three-quarters of her length  
out of water. She has the same fine bow, the  
hard break into the flat bottom, flat sides, and  
gradual narrowing towards the transom stern.  
There is another Sauer boat built by Des-  
champs, a French constructor.

The 21-footer class is a new feature this  
year. There were a few boats of this type  
last year, but there was no special class and  
no special prizes for them. They have been  
specially encouraged and have come forth 18  
strong, 14 of them being from England, 3 from  
France and one from Italy. Competition here  
will be decidedly keen, for all the motors are  
specially built to the cylinder limitations; the  
total weight varies but a few pounds, and the  
general design is the same throughout the en-  
tire series. It is a competition of motors as  
much as of hulls, the former having been built  
by such well-known firms as Sunbeam, Austin,  
Wolsley, Brooke and Vauxhall, and the latter  
having Sunders, Hart Harden, Brooke and  
Despujols as their producers. The uniformity  
which was mentioned as characteristic of the  
boat at Monaco is probably more pronounced  
among the 21-footers than among the larger  
craft. On the other hand, the motors are of a  
most diversified nature. Sunbeam, who has  
engined five of the boats—Cockle Shell, Vi-  
cuna III, Vixen, Fuji-Yama and Princess  
Caprice—has a racing car type of motor,  
measuring 3.1 by 4.7 inches bore and stroke,  
with valves on one side and the stems inclined  
so as to improve the form of the combustion  
chamber. Austin has a special type of similar  
dimensions, having cylinders and upper half  
of crank-chamber in a single casting and valves  
in the head. This motor drives forward to a  
reducing gear, the propeller shaft then run-  
ning aft. In Apache, one of the French boats

(Continued on page 64)

## WHITTELSEY AND WHITTELSEY

Naval Architects  
Engineers and  
Yacht Brokers  
11 Broadway  
New York, N. Y.



## NAVAL ARCHITECTS & YACHT BROKERS

### WM. EDGAR JOHN

Naval Architect and  
Engineer

328 Chestnut St.  
Philadelphia, Pa.



### KROGMAN & PURDY

Yacht and Ship Brokers  
HIGH GRADE YACHTS OF ALL TYPES  
FOR SALE AND CHARTER  
92 State Street, Boston, Mass.  
Correspondence Invited Particulars Furnished

### A. J. McINTOSH YACHT AGENCY

SPECIALIST IN GENERAL YACHT BUSINESS.  
Steam yachts, Sail boats, auxiliaries, Motor Boats.  
MARINE INSURANCE.  
YACHTS FOR SALE OR CHARTER.  
32 BROADWAY NEW YORK  
Telephone 4888 Broad.

### FREDERIC S. NOCK

NAVAL ARCHITECT AND YACHT BUILDER  
MARINE RAILWAYS, STORAGE, REPAIRS  
EAST GREENWICH RHODE ISLAND

### H. B. PICKERING & COMPANY

MOTOR BOAT DESIGNERS  
ANN ARBOR, : : : MICHIGAN

### T. S. POEKEL & CO.

Engineers and Designers  
YACHT BUILDERS  
Marine Railways Storage Sheds  
Tel. Dor. 1690 NEPONSET, MASS.

### LAWRENCE M. THOMPSON

M. AM. SOC. N.A. & M.E.  
DESIGNS, SURVEYS, INSURANCE & BROKERAGE.  
COMFORT CRAFT SPECIALIST.  
Houseboats With or Without Power.  
Cruising Yachts and Commercial Vessels.  
Velati Building, Ninth and G Streets, Washington, D. C.



Tel. Lombard 229 Cable Add. "Murray"  
Naval Architects and Engineers Yacht and Vessel Brokers  
Office 827-828 BROWN BROS. BUILDING PHILADELPHIA  
828 CHESTNUT STREET

### THEODORE D. WELLS

Naval Architect and Marine Engineer

23 Broadway, New York. Tel. Broad 6771  
A Specialty of Steam Yachts, Power Boats and Sailing Yachts.  
Successor to H. O. WINTRINGHAM and  
WINTRINGHAM AND WELLS.

### MORRIS M. WHITAKER, N. A.

NYACK-ON-HUDSON, NEW YORK, U. S. A.  
Specialist in the Design of Motor Cruisers,  
Auxiliaries and Commercial Vessels.  
Designer of over 400 successful motor craft since 1900.  
Sketches and quotations for designs submitted on receipt  
of your requirements.





## Varnishing for Lasting Results.

### Practical Hints for Boat Owners.

#### *Varnishing New Work*

First see that the wood to be painted or varnished is perfectly clean and dry.

Open grained woods, such as oak, ash, mahogany, and walnut, should have a coat of a good mineral paste filler. Close grained woods, such as cherry, birch and maple, should have a priming coat of Valspar, thinned with 1-5 pure turpentine. Twenty-four hours after, apply a full flowing coat of Valspar. Fill the brush well, flow the varnish on, and do not brush out much. This is important. All-told apply three flowing coats of Valspar, allowing twenty-four hours between coats. It dries hard in twenty-four-hours.

**Caution:** Never use shellac as a primer or filler for surfaces which are exposed to the weather, moisture, or hard knocks. The brush must be absolutely free from grit, oil, or grease. Use a new brush preferably.

#### *Revarnishing Old Work*

**Removing Old Coatings:** The best and safest method of removing old varnish is to scrape with a metal scraper or broken glass. If the old varnish has perished and almost all gone, rubbing with steel wool or sandpaper will do. Old paint should be burned off.

**Caution:** If a liquid varnish remover is used be sure to wash the entire surface thoroughly with benzine or petrol before applying the coat of paint or varnish. This is vital, as a varnish over a surface from which old coatings have been removed with a liquid remover and not cleaned off, is liable to perish soon.

**Applying Varnish:** When all old varnish has been carefully removed fill the brush well and flow on a full coat without brushing out much. Apply three coats, allowing twenty-four hours between coats.

**Bleaching Weather-Stained Wood:** Scraping or planing is the safest method of removing weather stain. If oxalic acid is used for bleaching, this acid must be neutralized by an alkali before varnish is applied or the life of the varnish cannot be depended upon. To neutralize the oxalic acid, wash it off with a solution of ammonia or soda and hot water. One tablespoonful of either to a pail of water. Then rewash the whole surface with plenty of clean, warm water.

To maintain a fine finish, having thoroughly refinished in the spring, apply one coat of varnish towards the end of the season. This is an added protection to your boat during the winter. Complete refinishing is not necessary every year—when Valspar is used. The following spring a full flowing coat, applied after a light sandpapering and touching up of the worn spots, will suffice.

Copy of our new booklet "Valspar for Boats" mailed on request. Use the coupon.

**VALENTINE & COMPANY**  
456 Fourth Avenue, New York City

(Established 1832)

Chicago Boston Toronto London Paris Amsterdam

TRADE **VALENTINE'S** MARK

**FILL IN—TEAR OFF—MAIL TODAY**  
**VALENTINE & COMPANY, 456 Fourth Avenue, N. Y.**  
Name .....  
Address .....  
Send me free of cost copy of  
booklet "Valspar for  
Boats." (M. B.-3)

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



TRADE MARK.

## SMITH'S SPAR COATING

86 Years Experience  
in Every Can

### WE GUARANTEE

absolutely that this varnish is well-aged and made of nothing but hard fossil gums of superior grade, finest oil of special refining and pure spirits of turpentine, no rosin, no substitutes.

The most perfect finish for spars, deck houses, decks and all wood and metal work exposed to excessive changes in weather and temperature.

It is pale, has good body and is easy working, brilliant and most durable.

## MARINITE

for all wood and metal work generally "awash" and anywhere for "hurried" work.

It will not turn white under water.

### EDWARD SMITH & CO.

Varnish Makers for 86 years

MAIN OFFICE AND WORKS:

Long Island City, New York  
P. O. Box 1780 New York City

Western Branch  
3532-34 Morgan Street, Chicago

### CROCKETT'S Spar Composition

—the original and best known exterior marine varnish in the world. The best Interior Finish is Crockett's

No. 1 Preservative

Send for Catalogue

The David B. Crockett Company Bridgeport, Conn.

## Murphy Varnish Lasts Longest

MoToR BoatinG is invaluable for the marine advertiser because it reaches marine buyers exclusively. This concentration of circulation eliminates advertising waste.

### The Meet at Monaco.

(Continued from page 62)

engined by Picker-Janvier, a reducing gear is also employed, but in this case it is placed immediately to the rear of the motor, as on a motor car. Picker, the designer of this motor, has tried the experiment of fitting four independent carbureters with fairly satisfactory results so far as can be ascertained from the trials. It is found that the carbureters have to be smaller than is usually considered necessary for a single-cylinder of the given dimensions. Picker has five motors here, and on four of them he is making use of a separate carbureter per cylinder. It should be pointed out that in every case these motors run at high speeds, the Picker-Janvier in Apache having turned over at 3,000 revolutions, although 2,500 revolutions is its normal speed.

### The Gulf Coast.

(Continued from page 8)

and crossed the lake in just four hours in spite of a brisk head wind that gave us plenty of spray. We passed into the canal just ahead of the semi-weekly mail motor boat and settled down for a sixty-one mile canal run to Fort Lauderdale and civilization. In due course of time we arrived there without a stop or slow down, and unfortunately with no sight of alligators to photograph. A more monotonous run can hardly be imagined than this canal run upon the interminable straight-aways through the glades, beneath the scorching sun, with nothing to indicate where you are except the mile-posts. There may be novelty in it at first on account of the utter desolation of it all, but all that wears away long before you have logged ten of the sixty odd miles.

That night the faithful chief got busy with developer and hypo while the skipper, as usual, sought refuge in a moving picture show. The chief somehow seemed to get better results if the skipper was ashore and couldn't sit on any undry negatives. Next morning we completed our return run to Miami, again taking the inside route on account of that persistent east wind.

Our gasoline consumption on the return trip across the state was surprisingly small, and we could account for the fact only because we had shipped some of our equipment from Tampa to New York by freight, and now had room on board for Knee Deep, and carried her on this run instead of leading her by the halter as we had done for two thousand miles and over. This discovery sort of brought Knee Deep into disfavor, even in the eyes of the skipper.

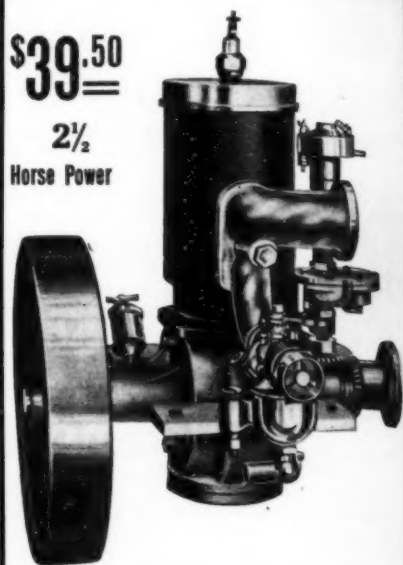
We lay for a few days at Bert Southall's yard, the most popular yard in Florida, and cleaned house thoroughly before turning Querida II over to new hands which we gratefully knew were friendly ones. A gold cuff link, mourned as lost weeks ago was joyfully brought to light. The bilge surrendered many a treasure under protest and grease. Garment after garment was fished out from hidden recesses, recognized with difficulty as a pair of trousers belonging to the skipper or an erstwhile raincoat which had once graced the chief's back on Fifth Avenue, and reluctantly and gingerly dropped over the side. But between the cypress ceiling of the cabin and the outside planking is a narrow space where still repose countless treasures absolutely inaccessible and upon which the eye of man is destined never again to rest. We know not exactly what they comprise—but we know that they include six pipes, forty-four five-cent cigars, two fountain pens, a necktie, four knives, one thousand boxes of safety matches, two cakes of soap bought early in the cruise and never replaced, sixteen pencils, an electric flashlight, and several dill pickles.

The Fay and Bowen is as good as new. Its performance speaks for itself. Its makers are entitled to high praise for turning out a two-cycle engine which two amateurs were unable to put on the blink. She pushed us up the waters of Tampa Bay just as steadily and consistently as she had moved us down the North River from the New York Motor Boat Club float five months and 2,350 miles before.

\$39.50

2 1/2

Horse Power



## DELONG ENGINES

represent the highest development of two-cycle engines. They are not big, heavy and clumsy looking, but they are light weight, finely constructed and beautifully finished. It is useless to compare our single-cylinder engine with that of any other make, because nothing of its quality has ever before been produced by engine builders and sold for less than double the price we ask. The material used in the construction of this engine is the very best to be had. Every part is *standardized and absolutely interchangeable*. The pistons have extra length to insure long life; the crank shafts are of high grade carbon steel, heat treated; the bearings are of genuine motor babbitt and bronze; the circulating pump is of bronze. The equipment consists of one high grade spark coil, spark plug, mixing valve, shaft coupling, compression grease cups, priming cup, ball thrust bearings, upright timer and bronze circulating gear pump. This engine is suitable for all types of small boats. It is sold under an unlimited guarantee of satisfaction. Send for our booklet, it will tell all about this engine and how it is possible for us to sell it at such a low price.

### Delong Engine Co.

83 North Ave., Webster, N. Y., U.S.A.

### PAINTER'S NECESSITY

The quickest, easiest and most satisfactory method of removing paint and varnish. It is a clamp which holds the scraper knife firmly clamped to blow-torch. Adjustable for all requirements. Divides weight of work between both hands.

Write for descriptive circular.

BAKEWELL & PHILLIPS, Mfgs., Clayton, N. Y.

### MARINE PAINTS AND SPECIALTIES

Elastic Seam—Compositions; Elastic Flat Yacht White; Elastic Gloss Yacht White; Elastic Special Bright Green; Elastic Special Bright Red; Elastic Special Bright Blue; Elastic Bright Green Boottopping. Send for list of firms carrying our goods and for catalogue to

H. B. FRED KUHL, Sole Manufacturer  
Office and Works: 3rd Ave. & 52d St., Brooklyn, N. Y.  
U. S. A.

MoToR BoatinG carries the leading advertisers in all branches of the marine trade. For instance, count the advertisements of paints and varnishes, engines and equipment in this issue.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



# The users of NAVALITE are the true builders of its reputation.

## Theirs is the verdict that counts



New York City, December, 1912.

We have used Chicago Varnish Company's marine line for the yachting season of 1912 and found it **AI**. For spar varnish, *Navalite* has no equal. It lasts the longest, has a beautiful lustre, does not turn white and flows on easily. It does not skin over in the can nor gum the brush. Some of these qualities we have found lacking in all other marine varnishes.

Yacht	(Signed)	Yacht	(Signed)
Corsair.....	W. B. Porter, Capt. (Owner, J. P. Morgan)	Hiawatha....	Frank F. Johnson, Capt.
Scout.....	E. Matson, " (Owner, Aug. Belmont)	Idler.....	Ch. Percival, "
Aurora....	Christ Christensen, " (Owner, Cornelius Vanderbilt)	Rambler.....	Chas. Small, "
Sultana....	Norman Ferguson, " (Owner, Mrs. Harriman)	Zara.....	F. L. Littlefield, "
Noma.....	E. Roberts, " (Owner, W. Astor)	Sagamore.....	B. Jarvis, "
Elena.....	W. Dennis, " (Owner, Commodore Plant)	Intrepid.....	B. Purdy, "
Winchester.....	A. Johnson, " (Owner, Commodore Rouss)	Atlantic.....	E. Pagel, "
Enchantress....	Oliver Smith " (Owner, Commodore Iselin)	Wild Duck....	Chas. Hanscomb, "
Iolando.....	A. C. Berton, " (Owner, Commodore Plant)	Linta.....	John Moore, "
Alvina.....	C. Iverson, " (Owner, Commodore Plant)	Margarett.....	D. Dungan, "
O-Wee-Ra.....	R. W. Lewis, " (Owner, Commodore Plant)	Mohigan.....	Chas. Staalesen, "
Columbia.....	John Bond, " (Owner, Commodore Plant)	Chanticleer.....	E. Colbeth, "
Westward.....	C. Coalfleet, " (Owner, Commodore Plant)	Alcyone.....	D. A. Kerr, "
Emeline.....	E. Howell, " (Owner, Commodore Plant)	Flying Fox....	F. Champlain, " (Motorboats—largest in America)
Corona.....	H. Vogelberg, " (Owner, Commodore Plant)	Josephine.....	J. E. Holtz, "
Constellation....	B. Watson, " (Owner, Commodore Plant)	Allegro.....	E. Elldridge, "
Isis.....	R. F. Sherlock, " (Owner, Commodore Plant)	Whirlwind.....	F. Smith, "
		Paula.....	B. Wallace, "
		Edith.....	Chas. Petterson, "
		Cynthia III....	B. Larson, "
		Alacrity.....	J. Baldwin, "
		Oneida.....	B. Olson, "
		Itasca.....	C. Swanson, "

### SUPREME YACHT WHITE

The years have proved Supreme Yacht White unequalled for use on hulls and other exterior works of yachts. It may also be used for interiors. It is pure white in color, covers well, works freely, without leaving brush marks, and dries with a handsome lustre, giving a very durable finish. It neither chalks nor cracks.

### EGGSHEL-WHITE

For artistic effect, no rubbed enamel finish for interiors gives the beautiful results obtained by using Eggshel-White. It requires no rubbing and dries rapidly to a perfect eggshell gloss. Two qualities of Eggshel-White, that make it the best known enamel on the market for interior finish, are these: It dries *absolutely without brush marks*, and *we guarantee it never to lose its pure white tone* if C. V. Co.'s Flat Lead is used for under coatings.

### PRICES

Navalite .....	\$4.50 per Gal.
Supreme Yacht White.....	\$3.50 per Gal.
Eggshel White.....	\$4.00 per Gal.

Send for list of Marine Specialties

Manufacturers make claims. Consumers make tests.

Don't bank on promises, put your faith in proof of work done.

The masters and captains of America's biggest and best sailing yachts and power boats unite in pronouncing *Chicago Varnish Co.'s Navalite* the most perfect marine finish on the market today.

# NAVALITE NEVERWHITE

# LASTS LONGEST

### A GUARANTEE

We guarantee Navalite not to turn white in fresh or salt water and to outwear any other marine varnish.

Fifty years' experience in manufacturing varnish has enabled us to perfect Navalite—to give it those qualities most needed by the marine trade. Good body—to cover well. Quick in drying—so that it may be applied with safety where the atmospheric conditions are bad. Free in flowing—to apply easily. Elastic—to withstand changing temperatures of air and water. It does not skin over if left in can uncorked nor gum up on the brush. We thoroughly test every tank of Navalite to guarantee its uniformity.

Boiling water does not affect Navalite. Send for a sample can of Navalite and a strip of japanned tin. Pour the varnish on the tin and, when dry, submerge in boiling water. It will not turn white nor will it be otherwise affected by the boiling water.

Navalite as perfected today is the only spar varnish bearing the stamp of unqualified approval of the men best known in the yachting world. Theirs is the verdict that counts.

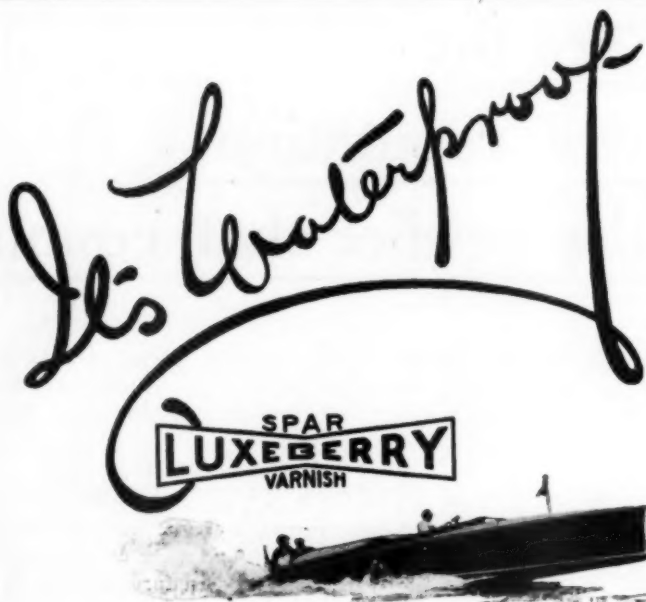
### OTHERS MAKE STATEMENTS, WE SHOW PROOF

CHICAGO  
2100 Elston Ave.

## CHICAGO VARNISH CO.

NEW YORK  
50 Church Street

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



### Finish Right at the Start

THE right finish—the never-turns-white finish—the will-stay-bright finish—that's Luxeberry Spar.

Designed for boats, clubhouses or any exterior purpose where the attacks of wind, weather and water are particularly strong.

Half a century of quality manufacturing is back of it.

At most dealers—but be sure it's Berry Brothers.

### BERRY BROTHERS

Established 1858.

Factories: Detroit, Mich., and Walkerville, Ontario.  
Branches: New York, Boston, Philadelphia, Baltimore, Chicago, Cincinnati, St. Louis, San Francisco, London, England.

## We want you to try KYANIZE SPAR FINISH

on your Motor Boat or Canoe.

It is the most durable varnish you can get. Will not turn white, crack, chip off or grow flat. Water does not hurt it.

**The United States Navy has used thousands of gallons on their Battleships and Cruisers.**

To get you to try Kyanize we make the following



### Trial Offer

If your dealer can't supply you send us a one dollar bill and mention this advertisement, and we will send you a full quart can of Kyanize Spar Finish, express paid, and send you free of charge a splendid 2½ inch chisel Varnish brush to put it on with. After you have tested the Kyanize on your boat, if it is not perfectly satisfactory and all we claim for it, return us the empty can by mail and we will return your dollar.

**Boston Varnish Company** Everett Station **Boston**

## THINK OF THIS!

No Barnacles—No Grass on Your Boat Bottom this year

PAINT YOUR BOAT BOTTOM WITH

### HENKE MARINE BRONZE

and eliminate all trouble and expense. The only paint that will not peel—it is absolutely guaranteed.

Henke Marine Bronze Paint keeps in perfect condition all season—it is trouble-proof from barnacles and grass, will beautify your boat and INCREASE your SPEED. Made in two colors, Green and Copper. It gives a hard, smooth, fast surface with a metallic finish. For wood, bronze and copper bottoms.

Remember, Guaranteed for One Full Season

Our patented can keeps Henke Marine Bronze fresh until you are ready to use it as the paint is not mixed until the cover is removed—notice the illustration.

Write Us Today

Sold by all reliable dealers. If not he can get it for you or write direct to us. Write for Booklet and Color Card M.

**HENKE MANUFACTURING CO.**  
135 BOWERY NEW YORK CITY



“WORTH  
ITS  
WEIGHT  
IN  
GOLD”



## MONARCH Spar Varnish

Unapproached in lasting qualities by any other varnish. Perfection for all outside uses.

### Gillespie's Monolac

The best varnish made for interior marine work, cabins, woodwork, floors, etc. Furnished in colors and clear.

### Monarch Bull Dog Remover

A paint and varnish remover that acts almost instantaneously on ordinary work. The only product which satisfactorily removes old lead, zinc paint, enamel or shellac. Does not burn the hands.

### A Treatise on Refinishing Yachts and Motor Boats

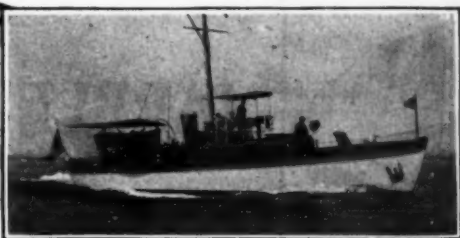
This book gives invaluable advice and hints which every boatman should know. Free upon request.

Send four cents postage for free Distance Finder for use on charts

**CHAS. H. GILLESPIE & SONS**  
JERSEY CITY ESTABLISHED 1871 NEW JERSEY



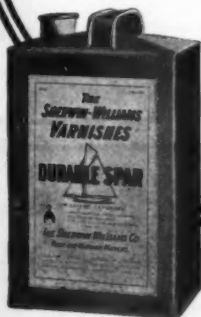
## Good Varnish Improves the Appearance of Your Boat and Pro- tects It from Exposure



Brighten up your boat this Spring and protect it from the severe exposure of the sun and brine. To get satisfactory results, a good, durable varnish must be used. Our 45 years' experience is your protection. It has enabled us to produce a varnish particularly adapted to the purpose it has to serve. For your best work, select

### **SHERWIN-WILLIAMS DURABLE SPAR VARNISH**

A good, old-fashioned varnish. You will find in this product the highest grade of ingredients. They are combined according to accurate formula, thoroughly filtered, aged and tested by expert varnish-makers. Durable Spar dries quickly to a tough, elastic and glossy surface, which it retains throughout the season. Ask your friends what they use, you'll surely find many satisfied users of S-W Durable Spar Varnish among them.



*Write for our Marine Color-Card CC-30. It describes our entire line of Marine Finishes. Sent free upon request.*

NEW YORK STORE

116 WEST 32<sup>d</sup> ST., NEW YORK CITY

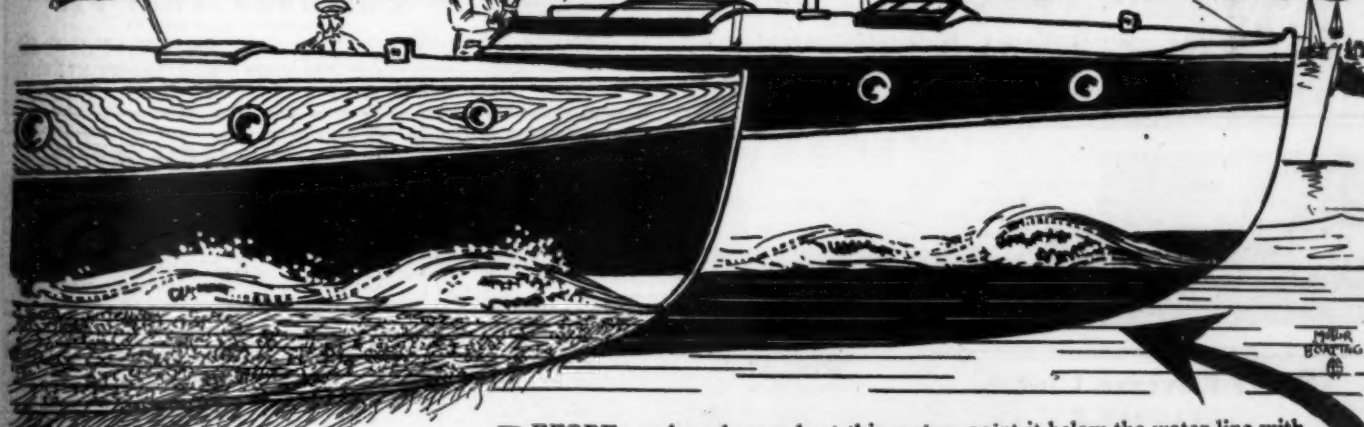
**THE SHERWIN-WILLIAMS Co.**

PAINT AND VARNISH MAKERS

741 CANAL ROAD  
CLEVELAND, OHIO



## BRIDGEPORT BRONZE MARINE PAINT WINS



**B**EFORE you launch your boat this spring, paint it below the water line with Bridgeport Bronze Marine Paint. We absolutely guarantee that it will be free from all sea growth at the end of the season. Read the guarantee shown below.

Bridgeport Bronze is the most successful bottom paint known. It has been on the market several years, and is increasing in popularity and use every season. Prevents damages from the teredo or ship-worm as well as eliminating barnacles, grass, etc.

The smooth surface which Bridgeport Bronze insures for your boat's bottom will increase your speed and save enough in power, fuel and deterioration to pay for itself several times over.

Bridgeport Bronze Paint is now put up in glass jars which positively prevent leakage and deterioration. Always fresh and in perfect condition.

*Write for booklet and prices*

**BRIDGEPORT BRONZE MARINE PAINT CO.**

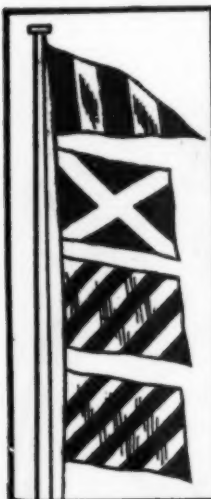
Cable Address, "Laquero, Bridgeport"

BRIDGEPORT, CONN.

### *Our Famous Stamp*

We guarantee to refund the amount of this bill, if at the end of the season there is any sea growth on the bottom of the boat, on which two coats of our B. B. Paint have been properly applied.

*Bridgeport Bronze Marine Paint Co.*



## → S. & M. ← MARBLEHEAD ANTI-FOULING GREEN WHITE or BRONZE

The most powerful anti-fouler and preventive of marine growth, barnacles and borers ever produced. A brilliant and beautiful shade of light green—A clean, smooth, slippery surface—Great durability and economy of upkeep. In tropical waters it is the only substitute for copper sheathing as a protection against Tereidos. Non-corrosive. Will protect both wood and steel.

**For the Bottom of Racing and Cruising Yachts and Launches**

**ABSOLUTELY GUARANTEED**

**FOR TOPSIDES—Yacht White and Yacht Varnish Black. Deck Paint of All Colors**

**STEARNS MCKAY MFG. CO. MARBLEHEAD, MASS.  
U. S. A.**

### JEFFERY'S MARINE GLUE

The Purposes for Which the Various Grades Are Intended

**For Deck and Hull Seams of Yachts and Motor Boats**

**Use No. 1 Extra Quality**

Black, white, yellow or mahogany color. Give black the preference; it is more elastic and satisfactory in every way. Specified by all first-class designers, and used exclusively by all the prominent builders.

**For Ships' Decks Use No. 2, First Quality Ship Glue, No. 3 Special Navy Glue.** All put in 1, 2, 3 and 5-lb. cans; also 14, 28, 56, 112-lb. boxes, either tin or wood. Insist on having the RIGHT kind if you hope to obtain satisfactory results. AGENTS WANTED EVERYWHERE. For sale by all Yacht, Boat and Canoe Supply Houses, Hardware and Sporting Goods Dealers. Send for samples, circulars, directions for use, etc.

**For Waterproofing Canvas for Covering Decks, Tops of Cabins, Canvas Boats and Canoes**

**Use No. 7 Soft Quality**

Black, white or yellow. It not only waterproofs and preserves the canvas, but attaches it to the wood, and with a coat of paint once a year will last as long as the boat.

**Waterproof Liquid Glue is used for the same purposes as No. 7, Soft quality.** It is ready for use and requires no heating; simply open the can and paint it on, like ready-mixed paint. This glue will also attach cork, felt, rubber, leather and linoleum to iron, steel or wood.

**Special Marine Canoe Glue Best Filler for Canvases, Black, White and Yellow**

Our 25c emergency cans made a big hit. Every canoeist should carry one; it is as valuable to him as a repair kit to a bicyclist or automobilist. It is a Johnnie-on-the-Spot article that no boatman should be without. Weight, ready to mail, 6 oz.

L. W. FERDINAND & CO., Importers and Distributors, 201 South St., Boston, Mass., U. S. A.

### Coe's Ribbon Gold Leaf

**For Gold Streaks, Nameboards, Figureheads**

YOU can apply it yourself—easily and perfectly, no matter whether on a smooth surface or over raised or carved figures. It may be used in the wind, without blowing away or wasting a bit. Our special method of applying makes it easiest, quickest and most economical to use, for expert or amateur.



#### DO YOUR OWN GILDING

Used by such leading boat builders as Geo. Lawley & Son, Gas Engine & Power Co., and many others, including over 300 railroads and car manufacturers. On the market 15 years. Write today for catalog and price list.

W. H. Coe Mfg. Co., Providence, R. I.



Showing life-preserver cushions in cockpit of motor yacht.

WE are making a specialty this season of our life-preserver cushions, covered with genuine Morocco, with filling of Prime Java Kapok, the lightest and most buoyant filling known. To stimulate the early placing of orders, we will accept a limited number of orders for these cushions at a special price of seventy-five cents per square foot.

#### Cushions That Fit

Manufactured since 1915, by

Life-preserver Pillow Cushion as per cut, Eighty-five cents each, or nine dollars per dozen. Size 16 x 16. Send for booklet.

**M. W. FOGG**  
202 FRONT STREET  
NEW YORK



IS your boat worthy of a name? Then it's worthy of **A HICKOK NAME PLATE**

They're the best made and they are not expensive. Write us today giving name of boat.

The Hickok Mfg. Co.  
40 St. Paul Street  
Rochester, New York

#### Pearl Reverse Clutch

NO GEARS.

ONLY ROLLER BEARINGS and CONES. GRIP INSTANTLY and FIRMLY. BEST REVERSE CLUTCH ON EARTH.

**PEARL MACHINE COMPANY**

230 West Elizabeth St., Detroit, Mich.

#### NEW DEPARTURE BALL BEARINGS

are particularly adapted for motor boat work throughout the power plant. Made in three types. Double Row, combined roller and thrust. Single Row, for roller loads only. Satisfy for radial and one direction thrust loads.

Write today for 1913 catalogue.

**New Departure Mfg. Co., Bristol, Conn.**  
Western Branch, 1018-17 Ford Building, Detroit

**WILLIAM E. THOMAS & CO**

#### SPRAY HOODS

Brass Frames and Fittings covered with government khaki duck. The best hoods on the market. Send for prices and catalogue.

42 South Street, NEW YORK, N. Y. Telephone 1513 Broadway.

#### WELIN MARINE EQUIPMENT CO.

**A. B. C. LIFE PRESERVERS** **A. B. C. LIFE RAFTS**  
The Best Articles Made.

Life Boats Working Boats Motor Boats  
307 Vernon Ave., Long Island City, N. Y.



#### MOTSINGER

GUARANTEED AUTO-SPARKER

(Better than an overhauling battery.) Will generate current for ignition, and electric lights, charging storage batteries, etc. Suitable for all types and sizes of cars and gasoline engines. LET US TELL YOU HOW TO MAKE YOUR OWN ELECTRICITY. **MOTSINGER DEVICE MFG. CO., 735 First Ave., La Fayette, Ind.**

#### READY Sturtevant TO RUN ELECTRIC VENTILATING SETS

for ventilating cabins, toilets, etc. Give positive ventilation. Run from storage batteries. Hundreds in use on U. S. Navy Ships.

**B. F. STURTEVANT COMPANY, Hyde Park, Boston, Mass.**  
And all Principal Cities of the World.



**NARRAGANSETT CHEMICAL CO. PROVIDENCE, R. I.**



#### -POLARIS-

**COMPASSES and BINNACLES**

Standard quality and absolutely reliable. Write for our catalogue and prices.

**MARINE COMPASS COMPANY**  
BRYANTVILLE, MASS.

#### The Star Air and Water Pumps

Send for catalogue

**W. & J. TIEBOUT**

**MARINE HARDWARE**

No. 118 Chambers Street, New York

Send 4 cents postage for Marine Catalogue

#### SAMSON TILLER ROPE

Waterproofed

Solid braided cotton with center of phosphor bronze wire. Strong and durable, and will not stretch or rust. Send for sample.

**SAMSON CORDAGE WORKS, Boston, Mass.**

#### BOAT WOODS

We specialize in White Cedar and all other Boat Woods, and are prepared to make immediate quotations on lots to cover your individual requirements. Prompt shipment. Write us.

**WM. P. YOUNGS & BROS.**

First Avenue and 35th Street, New York  
Established 80 over years Telephone 2710 Murray Hill



# PUT THE POWER OF NIAGARA

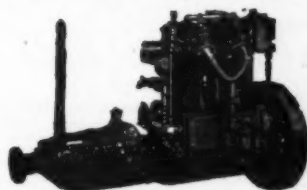
## In Your Boat

## FOR CRUISING, RACING, FISHING, FREIGHTING

The Four Cycle Type—Made in 16 Models in 2, 4 and 6 Cylinders. 5 to 100 Horsepower

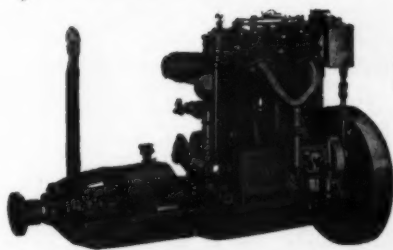
Niagara Motors Operate Efficiently on Gasoline or Kerosene

They are Typical  
of the Highest  
Development in  
Marine Motor  
Construction.



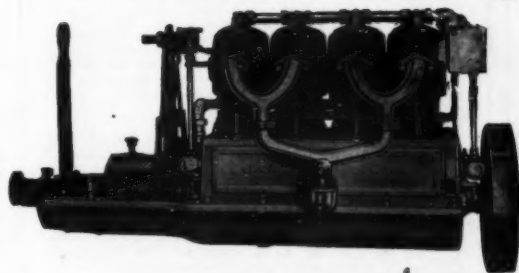
Economy, Flexibility,  
Quietness,  
Accessibility and  
Reliability are  
prominent Niagara  
Qualities.

75% of Niagara  
Sales Due to  
Satisfactory  
Service.

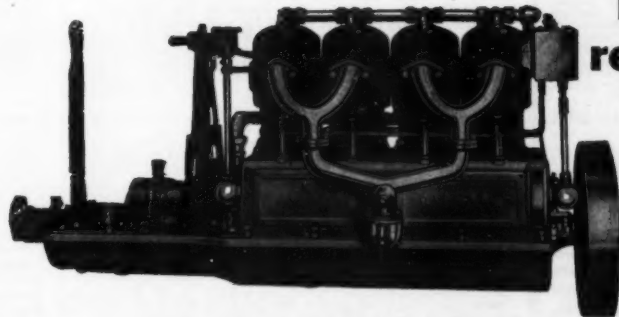


We will defray your  
Traveling  
Expenses to our  
Factory if when  
there you find  
the Niagara  
inferior to our  
representations.

Why  
Experiment?



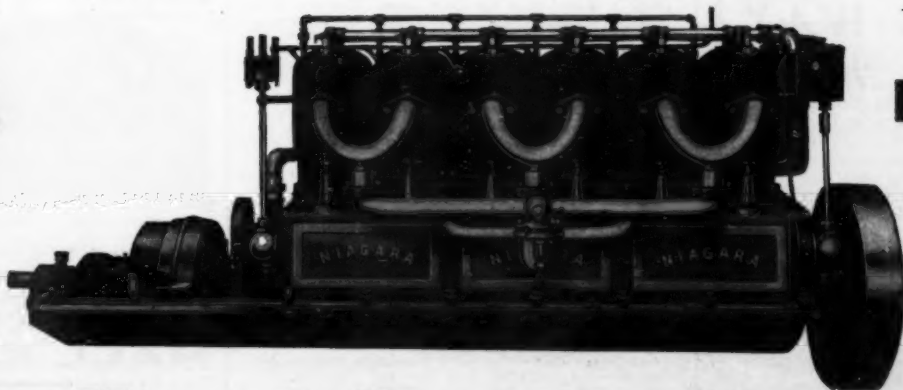
Investigate!



Better  
Be  
Sure  
Than  
Sorry.

Buy a  
Niagara  
and  
Be  
Happy.

Send for  
Catalog  
and Book  
of evidence.



We make  
superior steer-  
ing controls for  
all kinds of  
Power Boats.

### Niagara Motors & Manufacturing Company, Inc.

194 Niagara Boulevard, Dunkirk, N. Y.

## GALUSHA GAS PRODUCERS

Use gas made from coal, coke or charcoal in your engine. It is as cheap as gasoline at two cents a gallon.  $\frac{3}{4}$  to  $\frac{1}{12}$  the expense of power from steam or oil. We build sizes from 18 H. P. up.

**A. L. GALUSHA & CO.**  
311 Atlantic Ave., Boston, Mass.



## R-V

The Masterbuilt Engines

for  
Hydroplanes (12-30 ft.)  
Light Open Launches (15-40 ft.)  
or Yacht Tenders.

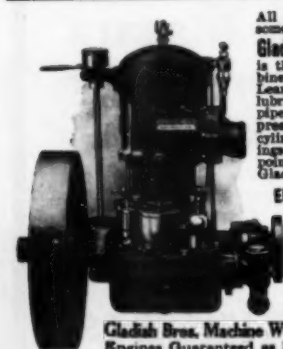
Perfectly Balanced—Trim—Light  
Weight—High Speed. Write to  
**Raymond Engineering Co.**  
Marine Dept., 55 State Street, Boston, Mass.

## IMPROVED THERMEX MUFFLER



No heat, no odor, no clogging, no salt, no back pressure, water cannot flow back to cylinder, revolutions increased, least possible noise. Can be used with free or under-water exhaust, placed at any angle or position, adjustable discharge, lightest and cheapest installed.

**BOOKLET ON REQUEST**  
THERMEX SILENCER WORKS, 19 Lewis St., East Boston, Mass.  
Marine Engine & Supply Co., 121 E. 6th St., Los Angeles, Cal.  
Pacific Iron Works, Vancouver, B. C.  
Stewart & Co., Charlotte, N. C.



All motor-boat engines have some good points. The Gladish Motor-Boat Engine is the one engine that combines all the good points. Learn about our positive lubrication by compression, pipelike radiation, air compressor for whistle, off-set cylinder, Ball Thrust Bearings and other strong points all for less money. Gladish Engines are

**ENGINES THAT KEEP GOING**  
You don't have to pay until you run the engine and find it fully satisfactory. Sit right down now and write for facts—then compare our engine, price and guarantee with any others.

Gladish Bros. Machine Works, Chattanooga, Tenn.  
Engines Guaranteed as long as you own them

## A MAN'S WAY



Keen, vigorous men like our method of installing engines in boats because it shows progress. The method simplifies the work and boat develops more speed. Ask for description.

The adjustable inside stuffing box shown here is only one of our 50 fittings—struts, propellers, clutches, etc.

**Mechanical Devices Co.,** 9th St., Watervliet, N. Y.

## Best grade cedar canoe for \$20

Detroit canoes can't sink

All canoes cedar and copper fastened. We make all sizes and styles, also power canoes. Write for free catalog, giving prices with retailer's profit cut out. We are the largest manufacturers of canoes in the world.  
**DETROIT BOAT CO.,** 46 Bellevue Ave., Detroit, Mich.

## Among the Clubs.

(Continued from page 33)

### Baltimore Regatta.

Under the auspices of the Maryland Motor Boat Club, a motor boat regatta will be held on July 4th and 5th at Baltimore. There will be all classes of boats including cruisers, cabin boats, open boats, displacement speed boats and hydroplane speed boats with cash prizes for each. Races are open to any boat owner subject to the rules and regulations of the racing board and handicaps will be in accordance with the A. P. B. A. rating. The annual 200-mile open race to Holland Bar Lighthouse and return will take place on July 25th.

### Official Opening on May 30th.

The Byram River Yacht Club of Portchester, N. Y., announces the opening of the season on May 30th, when the annual fishing race will take place. On June 21st, there will be a sailboat race to Stratford Shoals and return open to auxiliary boats and on July 26th, water sports and a free-for-all race open to all boats belonging to recognized yacht clubs.

### Election at Cedar Rapids.

The Cedar Rapids Motor Boat Club held its annual meeting recently and elected the following officers: Commodore, A. H. Roth; Vice-Commodore, Dr. Wm. Finn; Rear-Commodore, Dr. J. H. Calder; Treasurer, Mark J. Myers; Secretary, I. M. Preston.

### Cambridge Races.

The third annual regatta of the Cambridge Yacht Club, of Cambridge, Md., has been announced for June 9th. A new Classification System and Course Method will be inaugurated which is expected to develop short, snappy and more interesting events. The course will be elliptical in shape, two straight stretches with a short curve at each end, well buoyed, with the start and finishing point at the center of the front stretch. There will be all classes of boats and trophies for all events. All Cambridge races are open to all owners of motor boats.

### New Officers for Tamaqua Boat Club.

At the annual meeting of the Tamaqua Boat Club, Sheepshead Bay, N. Y., the following officers were elected for the ensuing year: Commodore, Arthur Ball; Vice-Commodore, J. Freiss; Rec. Secretary, S. B. Neill; Fin. Secretary, Wm. White, Jr.; Treasurer, G. E. Louis.

### Flat Rock Races.

The Flat Rock Motor Boat Club, is making extensive improvements to its club house and grounds on the upper Schuylkill River in preparation for an active racing season. One of the features of the racing schedule will be an interclub semi-speed boat race for the Championship of the Schuylkill River to be contested for by the Norristown Motor Boat Club, Philadelphia Canoe Club, and Flat Rock Motor Boat Club. The finals of this event will be run in connection with the Flat Rock's annual speed boat race on August 16th. There will be many other racing events on the Delaware River during the season of 1913.

### Philadelphia-Bermuda Entries.

The change this year in the date of the Philadelphia to Bermuda Race to June 28th, seems to have attracted many boat owners for already several entries have been received and there are other prospective entries in view. The boats entered are the Dream, Commodore Chas. L. Lagen, Yachtsmen's Club, Philadelphia; Barbara II, Vice-Commodore W. M. Duncan, New York, to be in command of Commodore J. G. N. Whitaker and the Tex, W. T. Wheeler, Jamaica Bay Yacht Club, of New York and negotiations are pending for the entry of three additional New York boats, two of which are the Ailsa Craig, winner of the first Bermuda race, and the Sea Wolf II, owned by Le Roy Moody. Other prospective entries are the Kathemna, the contender with the Dream in last year's race, owned by Commodore Wm. C. Smith, of Ocean Gate Yacht Club, Tomsam II, W. D. Mulford of Ocean City Yacht Club and the Serenity, the speedy cruiser of Arthur Block, of the Philadelphia Yacht Club.

### Bayside Entertainment.

The Bayside Yacht Club has just given an entertainment called "Tinkle Tinkle" or a "Nautical Night Off," which was a great success both financially and otherwise. The club has named its new racing class the Bayside Butterflies and their first race is scheduled for May 24th.

### Club Changes Name.

The Atlantic City Yacht Club is the name by which the Seaside Yacht Club will be known in the future. This move was approved by all the members, who thought in order to make the club a strictly home affair, it should bear the city's name. The new club includes membership for the ladies and for the young folks. The handsome new club house at the foot of New Hampshire Avenue will be opened on Decoration Day. Allen K. White was unanimously elected Commodore of the club.

### Keokuk Regatta.

Officers of the local motor boat club announce that the date of the annual regatta of the Mississippi River Power Boat Association to be held in Keokuk will be August 5, 6 and 7th. The building of the club house for the local club is well under way and it will be one of the handsomest on the river. The sixty mile lake will allow every event to be run on a straight-away.

### Newburgh Plans.

The Newburgh Yacht Club have completed plans for the coming season which include the usual club runs, shore dinners, clambakes, a series of dances and card parties, a couple of stage, at least one musical, exclusive of any regattas or races which may be arranged later on. Owing to the inability of members and guests to obtain gasoline for their motors at the club house it was decided to erect a gasoline tank on the club premises and retail it to them and flag-flying visitors, at cost price.

### Clubs Join Forces.

The newly organized Minnetonka Motor Boat Club has joined arms with the Mississippi Power Boat Association and some events attracting wide attention will be scheduled. Arrangements are being made for a big opening regatta on June 1st, in which many of the fastest boats in that part of the country will compete. The temporary home of the club will be in the remodeled "Tonka Bay Casino."

## Save Gasoline! Stop Cranking

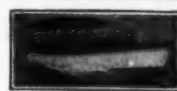
THE AUTOMATIC SPEEDER AND PRIMER will do both for you. The SPEEDER will positively save you from 20% to 30% in gasoline consumption, and give your motor a relative increase in power.

With the PRIMER you can start your motor with one turn of the crank. You can also eliminate all carbon trouble by feeding coal oil through it while your motor is running.

It weighs less than a pound and can be attached to any motor in 20 minutes, and it pays for itself in the saving of gasoline.

Guaranteed to do as represented or money will be refunded.

Write for prices and particulars to  
**THE MOTOR SPEEDER SALES COMPANY**  
1300 Nicholas Bldg. TOLEDO, OHIO



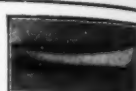
The Safest Small Cruiser built. Safe, comfortable and seaworthy, carries deck motor housed aft. Our 23 ft. the largest small cruiser afloat.

You must place your order now for Spring Delivery.



A new model 16 ft. shallow draft fishing boat, low in price.

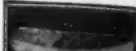
The Cape Cod Power Dory Rides Like a Duck But Never Dives



Our Leader 20 ft. Speed. The safest little family boat built, will stand the roughest waters. Motor housed in.

All Designs by GURNEY

Write for information, brochures which are interesting to



Rowing Skiffs 10, 12, 14 ft.

## You'll Enjoy Assembling This Motor Boat

You can handle hammer, saw and screw driver. You'll find it easy. Every piece is shaped and fitted here at the factory and shipped to you all ready for assembling. It will cost you only about  $\frac{1}{3}$  the boat builder's price—you get a staunch, speedy, dependable boat.

**BROOKS BOAT CLUB FREE** illustrating canoes, row and sail boats, motor boats, etc. Write today.  
**BROOKS MFG. CO.**  
6385 Sidney St. Saginaw, Mich.

Only \$28 for the knock-down frame of 23-foot motor boat including full-sized patterns and illustrated instructions to finished boat. \$12.50 in 12 packages.

## Build Your Own Boat



The Frame We Ship You—SEND FOR OUR CATALOG

which tells you all about it. You can build a 20 ft. launch for \$80 from pattern, that you could not buy at any factory for less than \$150, or you can buy the complete frame and build this 20 ft. cruiser shown in the picture for less money than you would have to pay for the cheapest 25 ft. finished cruiser you could buy.

from our patterns or knock down frame. You save 3-4 the cost and enjoy the work. Pattern and frame for boats of all types and sizes, from the motor launch up to the 65 ft. yacht. Also a full line of heavy boat hardware.



**DEFOE BOAT & MOTOR WORKS, 3219 State St., Bay City, Mich.**

## DIRIGO—A Perfect Compass



used on the "Sea Bird" and "Detroit". The Dirigo gives reliable service for years. The dial is plain to read, is sensitive to the slightest change of course and always steady. Most better.

A poor compass is dear at any price. It may cause the loss of your boat, perhaps your life. Get a Dirigo and it will never fail you.

Write today for catalog and special offer  
**EUGENE M. SHERMAN, Box 3, Bellevue P. O., Seattle, Wa.**

## HALL ENGINES

We have Engineed many of the Most World Famous Ocean Cruisers.

4 CUPS OUT OF 5—THE GREAT HAVANA RACE  
2 OUT OF 3—BERMUDA RACE, 1908  
Four Cyls. 6 to 250 H. P. Heavy Duty.

**HALL GAS ENGINE CO., PHILA. PA.**



## Here's Absolute Proof of the Reliability of Caille Perfection Engines



EVERY day in the year, rain or shine, snow or hail, this man can be seen with his little open launch delivering mail and messages to the freighters as they pass Detroit on their way through the Great Lakes.

Every boat must be met, regardless of weather conditions. It must be a service of absolute certainty. An unreliable, balky engine will not be accepted by the great transportation companies as an excuse for failure to meet a single boat. Nobody knows this better than Capt. J. W. Westcott, whose picture appears above. And so, after hearing much of the reliability of Caille Perfection Engines, he concluded to try one—to put it to the most severe test to which a marine engine could ever be sub-

jected. How well the engine withstood this test is best told in Capt. Westcott's own words in the following letter:

Caille Perfection Motor Co.,

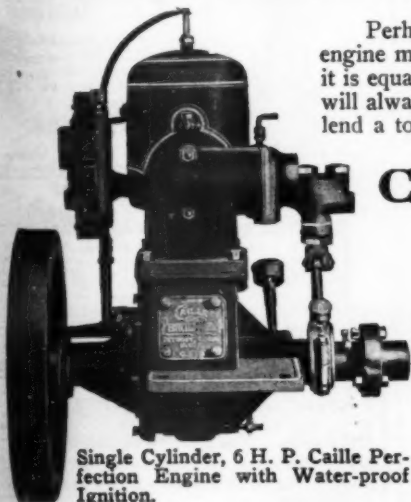
City.

Detroit, Mich.

I enclose two photos, one showing my boat, in which I have one of your  $3\frac{1}{2}$ -4 H. P. engines with igniter, the other showing the work it has to do. We meet and deliver messages to every freighter passing Detroit, no matter what kind of weather, so must have an engine that can be depended on to start every time and always be ready to go. Your engine meets these requirements exactly. It is by far the best engine I have ever used. I will be glad to show anyone the work my boat is doing and can easily convince them that you have a most wonderful engine. Expect to build another boat later and it will certainly have a Caille Perfection Engine in her.

CAPT. J. W. WESTCOTT,  
Marine Reporter.

Perhaps your boat may never be called upon to render such exacting service. Perhaps your engine may never be required to withstand such a test. But it's mighty comforting to know that it is equal to such a test—that it is absolutely reliable under the most severe conditions—that it will always take you where you want to go and bring you safely back—that it is always ready to lend a tow, but never needs one.



Single Cylinder, 6 H. P. Caille Perfection Engine with Water-proof Ignition.

### Caille Perfection Engines Are Water-Proof, Weather-Proof, Trouble-Proof

They are the most simple, most compact, most reliable engines ever designed for marine use. Run equally well in fresh or salt water. All parts are completely enclosed except the flywheel. No oil can splash out to soil clothing. Any member of your family can safely run these engines in any kind of weather. They need no protection whatever. Run on gasoline or kerosene.

### No Cranking--No Adjusting--No Battery Expense or Trouble

The Perfection Igniter produces such an extremely hot spark of such high voltage that, no matter how poor the mixture may be when starting, a simple rock of the flywheel sets the engine going at once. The igniter needs no adjustment. It is completely enclosed in a waterproof case and all parts so arranged that it is impossible for it to get out of order. No bat-

teries, no complicated wiring, no auxiliary apparatus is required—not even a switch. No matter how slow or how fast the engine runs, the spark is just the same. The igniter runs in either direction, enabling you to run your boat forward or backward, without reversing device. Not affected by heat or cold.

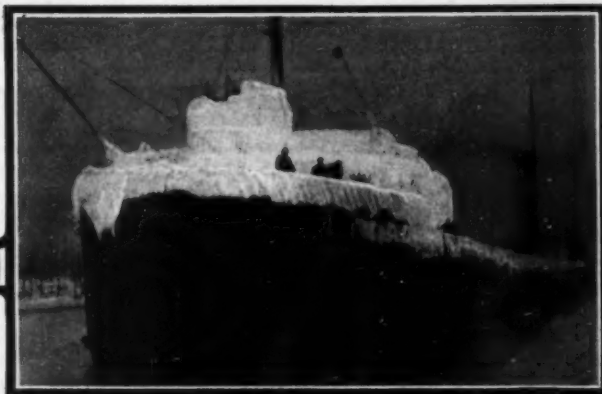
### Caille Perfection Double Cylinder Unit Power Plant

These outfits embody our highly efficient double cylinder engine mounted on a single base with our positive, quick acting reversing gear, making a sturdy, compact unit. There is absolutely no chance for loss of power through binding—no chance for shafting to get out of alignment. The greatest possible amount of power is delivered at the propeller. Easiest engine to install easiest to operate.

#### Send Today for Beautiful Engine Book

This describes our complete line of engines for all purposes from 2 to 30 H.P. Beautifully illustrated. Send today. A postal brings it.

**Caille Perfection Motor Co.**  
1202 Caille Street Detroit, Mich.



Capt. J. W. Westcott  
Meeting a  
Large  
Freighter.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



## THE WONDER ENGINE OF QUALITY

2 TO 40 H. P.  
GASOLINE OR KEROSENE.

Single Cylinder .....	2-3-5-6-10 H.P.
Double Cylinder .....	6-10-12-20 H.P.
Three Cylinder .....	9-15-30 H.P.
Four Cylinder .....	20-24-40 H.P.

For every requirement from the Canoe to the Cruiser. Buy a Wonder and be sure you are getting the best engine with the most power for the least money. That is what we offer you in our 1913 proposition. Every Wonder engine guaranteed for five years. Send to-day for our new 1913 catalog. It is a dandy, very complete, with full particulars, illustrations, data and so on. Prompt Shipments.

Send to-day. Great proposition for agents. Easy terms.

### THE WONDER MANUFACTURING CO.

280 TALLMAN STREET

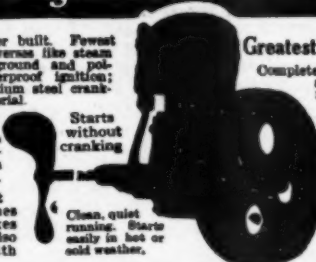
SYRACUSE, N. Y., U. S. A.

## 30,000 Detroit Engines Now Using Cheap Kerosene

Best and simplest marine engine ever built. Fewest working parts; handy control lever reverses like steam engine; extra-long bearing surfaces ground and polished. Best lubricating system; waterproof ignition; adjustable steel connecting rod; vanadium steel crankshaft. Finest workmanship, best material.

**Wonderful Economy of Operation**  
Patent Detroit Fuel Injector does work with 2 pints of cheap kerosene where other engines use a quart and a half of costly gasoline.

**Gasoline going up—try Detroit Kerosene Marine Engine.** No matches—no heater devices. Engine makes its power from cold kerosene; also uses distillate and gasoline with greatest economy.



### Greatest Marine Engine Bargain Ever Offered

Complete line—high, medium and slow-speed types—size 2 horsepower to 50 horsepower—in stock, ready to ship. Suitable for pleasure boats, work boats, tow boats, fishing boats, cruisers, speed boats, hydroplanes, tunnel-bottom boats, stern and paddle-wheel boats. 5-year guarantee. 30-day trial.

**Every Boatman Wants Detroit Kerosene Engine**  
Liberal commission for selling. Write to-day for illustrated catalog and special proposition explaining how you can demonstrate this wonderful engine and secure a special reduction on yours.

We also make Marine Reverse Gears (174)

**DETROIT ENGINE WORKS**  
1236 Jefferson Ave., Detroit, Mich., U. S. A.

## Booth Tarkington's New American Novel

### The Flirt

Just Out

¶ The story of Cora Madison who couldn't help it.  
¶ Everybody's been engaged to a flirt **once**. This is the girl you know.  
*Illustrated, Net \$1.25*

Doubleday, Page & Co., Garden City, New York.

At all Book Shops.

FOR SALE AT OUR BOOK SHOP IN THE NEW PENNA. STATION, NEW YORK CITY.



BUILT BY  
**LUDERS**  
A  
GUARANTEE OF SATISFACTION  
36-FOOT CRUISERS IN STOCK  
Write for Catalog  
Luders Marine Construction Co.  
STAMFORD, CONN.



### Magnificent Steel Launch \$96

Complete With Engine, Ready to Run

18-20-25 and 27 ft. boats at proportionate prices.

All launches tested and fitted with Detroit two-cycle reversible engines with speed controlling lever—simplest engine made—starts without cranking—has only three moving parts—anyone can run it. The Safe Launch—absolutely non-sinkable—needs no boathouse. All boats fitted with air-tight compartments—cannot sink, leak or rust. We are sole owners of the patents for the manufacture of rolled steel, lock-seamed steel boats. Orders filled the day they are received. Boats shipped to every part of the world. Free Catalog. Steel Rowboats. \$20.

**MICHIGAN STEEL BOAT CO.,** 1236 Jefferson Avenue, (87) Detroit, Mich., U. S. A.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

### TOPPAN POWER DORIES AND MOTORS



Safe. Best Sea Boat Built. \$180 up. Send for Catalog. **KNOCK DOWN DORIES EASY TO BUILD.** Send for Free E. D. Circular and Prices.  
**TOPPAN BOAT MFG. CO.,** 21 Haveshill Street, Boston, Mass.

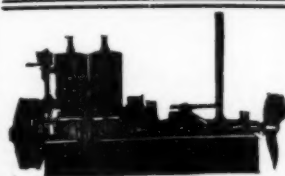
### HARBECK MOTORS

Unquestionably America's Finest Marine Engines

One motor only made in four and six cylinders; for medium and heavy duty; H.P. 50 to 130, exclusively for those who want and can appreciate the best.

**HARBECK MOTOR COMPANY**

C STREET, CHICAGO, ILL.



The Brown-Collins Engine

1 1/2-20 H. P.  
1 to 4 cylinders

The Brown-Collins Gas Engine Co.  
Hartford Conn.

### DALE "30" CRUISER

LENGTH 30 FT., BEAM 8 FT. 4 IN., DRAFT 2 FT. 6 IN.

Accommodations equal to most 35 footers. Toilet, lockers, ice box, dinette, closet, running water. Sleeps 4 comfortably. Oak keel, white cedar planking. Speed 10 mi; 12 H.P. Lathrop with reverse gear.

12 ft. skiff \$16 or furnished K. D. for \$10

**WM. L. DALE, 123 RIVER AVE., BRONX, N.Y.**



### BARKER MOTORS

"Imitated, but Not Equaled"

Fine mechanical features. Honest power ratings. Reasonable prices.

Manufactured by

**C. L. BARKER,**

Norwalk, - - - Conn.



**Kenefec Motor**

Canoes

**MOST DELIGHTFUL BOATING THERE IS**  
All the pleasure of canoeing combined with the speed and convenience of motor boating. Thoroughly tested and reliable motor. Strong, light, speedy hull. If equipped with spinnaker, absolutely non-capsizeable. Write for catalog of motor, sailing and paddling canoes.  
**KENEFEC MOTOR CANOE CO.,**  
95 Chaplin Street Waterville, Me.

### BUILD YOUR OWN STEEL BOAT

From patterns and printed instructions. Work easy; material furnished. Save 2-3 cost. Also completed boats. Send for catalogue and prices.  
**P. R. DAWSON STEEL BOAT CO.,** 620 Perry St., ALBION, N.Y.



### Kerosene Oil Engines

Marine, Stationary, Portable

**NO DANGER.** Maximum

Power. Lightest Weight.

Simple. Reliable. Economical.

No batteries. Self Ignition by Compression. Fully guaranteed. Write for Catalogue.

**HATCH OIL ENGINE CO.**

New London Conn.

### IDEAL IGNITION

on your marine engine is the result of using Ideal Ignition Specialties. Ideal Spark Plugs, Porcelain, \$1.00; Box \$1.25. Ideal Side Acting Switch, \$1.00; Ideal Front Co. acted Switch, \$1.75. Write today for complete catalog.

**IDEAL SWITCH CO., Inc., Plainville, Conn.**

### Electric Auto-Launch Light

Six volt, 8 c.p.; 8 or 10 ft. of cord. Handsome and well made. Fibre shell, nickel trimmings.  
Only safe light to use around gas, gasoline and naphtha.  
1/4 in. long x 1 1/4 in. diameter.  
Write to-day for circular.

**The W. A. Fenner Co., Providence, R. I.**



**Mea Magna**

Hot spark, full retard and set

valve.

**S. R. O. BALL BEARINGS**

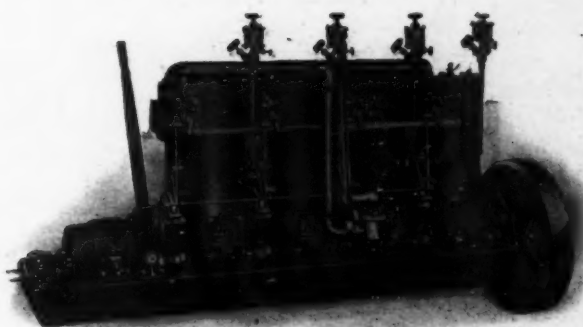
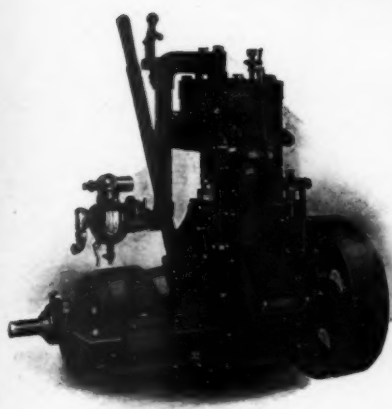
MARBURG BROS., Inc.

Sole Importers,

1790 Broadway, New York



# "The Automatic"



Automatic quality means maximum economy and efficient service. It can only be obtained through the use of the Automatic. The Automatic embodies the best in design and construction.

**POWER FROM 3 TO 250 H. P.  
INDEPENDENT CYLINDERS  
LARGE VALVES. EASILY REMOVED  
WATER VALVE FOR EACH UNIT  
HAMMERED CRANK SHAFT  
CUT STEEL GEARS  
POWERFUL REVERSE GEAR  
TWO IGNITION SYSTEMS  
GEAR DRIVEN MAGNETO**

Furthermore, we have the engineering ability, the factory and the necessary financial strength to design, build and guarantee our engines.

THESE ARE POINTS THAT MUST BE CONSIDERED

*Write today for the Automatic booklet*

**THE AUTOMATIC MACHINE CO.**  
**BRIDGEPORT : : : : : CONNECTICUT**

# "SANDS" MARINE SANITARY FIXTURES

An assortment of reliable closets for all classes of vessels in stock for immediate shipment--place your order NOW

"Sands" Patented Automatic Supply Foot Valve guarantees safety.

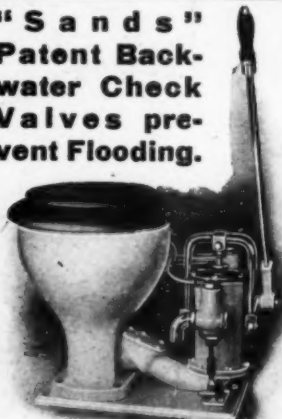


"HURON," PLATE S-2035.  
(Patented—Copyrighted.)

The "Huron" Pump Water Closet, extra heavy Vitro-adamant flushing rim hopper bowl. FIVE (5) INCH combined supply and waste pump, operated by handle grip.

Complete with mahogany seat and cover, Pump white enameled, N. P. trimmings.....\$132.50

"Sands" Patent Back-water Check Valves prevent Flooding.



"FLORIDA," PLATE S-2015.  
(Patented—Copyrighted.)

The "Florida" Pump Water Closet, extra heavy oval pedestal Vitro-adamant bowl. Improved supply and waste pump having FOUR (4) INCH cylinder.

Complete with mahogany seat and cover, Pump white enameled, N. P. trimmings.....\$112.00

"Sands" Special Non-Corrosive Metal Stands any kind of water.



"IOWA," PLATE S-2040.  
(Patented—Copyrighted.)

The "Iowa" Pump Water Closet, Vitro-adamant extra heavy oval flushing rim, straight back hopper bowl, FOUR (4) INCH supply and waste pump.

Price with quartered oak, cabinet finish seat and cover, pump rough with polished trimmings.....\$85.00

Workmanship and Design is "Sands" Standard."



"IMPROVED MOHAWK,"  
PLATE S-2030.  
(Patented—Copyrighted.)

The "Improved Mohawk" Pump Water Closet, extra heavy Vitro-adamant oval flushing rim hopper bowl. Composition supply and waste pump THREE (3) INCH cylinder.

Pump rough with polish trimmings, oak seat and cover.....\$70.00

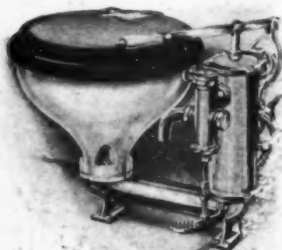
Two popular high grade fixtures for small boats—in stock for immediate shipment



"MANOR," PLATE S-26.

The "Manor" Pump Water Closet with FOUR (4) INCH Combined supply and waste pump, oval pedestal, Vitro-adamant bowl, polished quartered oak seat and cover. "Sands Patent Automatic Safety Supply Foot Valve."

Complete as described.....\$100.00  
Mahogany seat and cover add..... 2.00



"KNOCKABOUT," PLATE S-34.

The "Knockabout" Improved Pump Water Closet, round flushing rim hopper bowl, TWO AND ONE-HALF (2½) INCH supply and waste pump. "Sands Patent Automatic Safety Supply Foot Valve."

Pump rough, finished trimmings, 20 lbs.....\$45.00  
If mahogany seat and cover, add 1.50  
Weight: Net, 45 lbs.; Gross, 75 lbs.



THE "BOW" CLOSET, PLATE S-2050.  
(Design Patent Applied For.)

The "Bow" Closet, Vitro-adamant bowl, TWO AND ONE-HALF (2½) INCH pump, located at rear, fitted with swing handle. Quick opening supply valve. Space occupied, 15 x 24 in.

Pump rough, with finished trimmings, oak seat, N. P. Hinges.....\$30.00  
Dimensions: Front to back 23 in., width 14 in., height 12 inches.  
Net weight, 35 lbs. Shipping, 55 lbs.



"MARCO," PLATE S-28.

The "Marco" Improved Pump Water Closet Vitro-adamant oval pedestal bowl, oak seat and cover. Improved THREE (3) INCH combined supply and waste pump.

Complete as shown.....\$75.00  
Mahogany seat and cover, add..... 2.00



PLATE S-31A

The "Yukon" Pump Water Closet, Vitro Adamant oval flushing rim pedestal bowl, fitted with oak seat and cover. Composition TWO AND ONE-HALF (2½) INCH combined supply and waste pump. "Sands Patent Automatic Safety Supply Foot Valve."

Complete as described.....\$55.00  
If mahogany seat and cover, add..... 2.00



"CRUSOE," PLATE S-40.

The "Crusoe" Water Closet, Vitro-adamant round flushing rim bowl. Combined supply and waste pump TWO AND ONE-HALF (2½) INCH cylinder. Lever handle supply valve. Oak seat and cover.

Pump as described, with finished trimmings.....\$42.50  
Pump white enameled, N. P. trimmings, add..... 5.00



"MALTA," PLATE S-44.

The "Malta" Pump Water Closet, round flushing rim bowl TWO AND ONE-HALF (2½) INCH composition supply and discharge pump, quick-opening supply valve, N. P. hinges.

Pump, rough, with finished trimmings, oak seat.....\$30.00  
If with mahogany seat, add..... 1.00  
Dimensions: 14 in. back to front, 15 in. wide, 12 in. to top of seat.



PLATE S-39.

The "Utah" Pump Water Closet, Vitro-adamant oval flushing rim pedestal bowl, TWO AND ONE-HALF (2½) INCH composition combined supply and waste pump, lever handle quick opening supply valve, polished trimmings, pump rough.

Complete as shown.....\$45.00  
If with mahogany seat and cover, add..... 2.00

Complete line of closets, lavatories, port lights, deck plates, basin and galley pumps described in Catalogue "R" sent upon request

**A. B. SANDS & SON COMPANY**

Largest Manufacturers in the World **MARINE PLUMBING SPECIALTIES** 22-24 Vesey St., New York, U. S. A.

1849 — "OVER SIXTY YEARS OF QUALITY" — 1913

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



# THE RECOGNIZED STANDARD OF THE WORLD

## Folding Lavatories and Motor Boat Specialties Immediate shipment from stock



PLATE S-150.

The "Glenwood" Folding Lavatory, with Vitro-Adamant roll rim tipped oval basin, N. P. copper lining, soap and brush holders, N. P. brass pump with combination swing supply faucet, N. P. brass towel rack, N. P. brass supply and waste couplings, N. P. brass trimmings.

Quartered oak, polished finish.....\$42.50  
Mahogany, polished finish, add.....1.50



PLATE S-155.

The "Aroco" Folding Lavatory, N. P. slab, N. P. composition pump, combination swing supply faucet, N. P. brass copper lining, combined round basin and waste and supply couplings, oak case.

Complete.....\$25.00

Height over all, 19 1/2 inches; width, 15 inches; depth closed, 5 1/2 inches; depth open, 16 1/2 inches; basin, 10 inches.

The basin and slab are made of one piece of copper, dispensing with all seams and preventing the collection of dirt.



PLATE S-145.

The "Hobson" Vitro-Adamant Folding Lavatory, N. P. brass combination self-closing faucet for hot and cold water, N. P. brass waste coupling and towel rack.

Complete.....\$45.00  
Weight: Net, 45 lbs.; Gross, 75 lbs.  
Dimensions: Height over all, 26 1/2 in.; width, 16 1/2 in.; depth open, 17 in.; depth closed, 7 in.



PLATE S-151.

The "Realya" Folding Lavatory, with tumbler rack; N. P. copper lining; N. P. Copper combined round basin and slab; N. P. copper soap and brush holders; N. P. brass pump with combination brass swing supply faucet.

Made in Two Sizes

	No. 1	No. 2
Quartered oak, polished finish.....	\$37.50	\$42.50
Mahogany, polished finish.....	39.00	44.50
Height.....	19 1/2"	23"
Width.....	15"	17"
Depth, open.....	16 1/2"	19"
Diameter of basin.....	10"	12"

## Large assortment of Brass Pumps for Water, Oil and Gasoline



PLATE S-4280.

New Pattern Improved All Brass Galley Pump, 2" cylinder with shut off cock.

Pol. Brass \$12.50  
Pol. & N. P. 14.00



PLATE S-771.

Brass Gasoline and Oil Pumps with special valves and clamps.

Dia.	Lg.	Price
1 1/2"	15"	\$5.00
1 1/2"	18"	7.00
2"	24"	13.00

PLATE S-774.

Rough Brass Reversible Pump for Oil and Gasoline, fitted with special valves and detachable bulk-head clamps, 2" cylinder, length 12".

Price.....\$8.00



PLATE S-702.

Brass Basin Pump, 1 1/2 in. cylinder.

Polished all over.....\$10.50  
N. P. all over.....12.50



PLATE S-776.

Brass Gasoline or Oil Pump, Special valves, 2-inch cylinder.

Rough.....\$9.00  
N. P. all over.....10.50



PLATE S-709.

All Brass Galley Pump, 1 1/2 in. cylinder, reversible handle with shut-off cock.

Polished all over.....\$8.50  
N. P. all over.....10.50



PLATE S-773.

Rough Brass Reversible Pump for Gasoline or Oil, Special valves, 2 in. cylinder, length 12 in.

Price.....\$10.50



PLATE S-4254.

Basin Pump with low down spout 1 1/2" cylinder. For use in cook hole of lavatory.

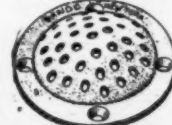
Pol. Brass.....\$12.00  
Pol. & N. P.....\$14.00



PLATE S-3388.

The "Zee" 12-inch Vitro-Adamant Corner Lavatory with one N. P. Compression Faucet, J. P. Waste Plug, Plug, Chain, Cook Hole Chain Stay and Rubber Stopper, No Trap.

Complete as described.....\$7.75



with self-cleaning perforations. Used on water supply for any and all purposes. Flange is drilled for screws; five sizes.

No.	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
Price	\$.35	.50	.65	1.00	1.50	2.00



PLATE S-750.

Double Acting Brass Auto Bilge Pump, 15 inches long under spout and fitted with 5 feet of rubber hose.

No. 1 — Chamber 1 1/2 in. diameter, \$3.00  
No. 2 — Chamber 1 1/2 in. diameter, \$4.50  
No. 3 — Chamber 2 in. diameter, \$5.50



PLATE S-123 1/2.

All Cast Bronze Heavy Pattern Combination Inlet Connection, with Strainer and Scoop.

No.	1 1/2"	2"	2 1/2"	3"
Price	\$3.25	\$2.00	\$2.50	\$3.00



PLATE S-3382.

The "Zaire" 14-inch Vitro-Adamant Flat Back Lavatory with N. P. Basin Pump with Low Down Spout, N. P. Waste Plug, Chain, Rubber Stopper and Cook Hole Chain Stay. No Trap. Complete.....\$18.50



PLATE S-126.

The "Glenora" Composition Flange and Coupling for use on supply and discharge pipe of closets. Straight or bent coupling.

Dia.	Price
3/4"	\$2.25
1"	3.00
1 1/2"	5.25
2"	8.00



PLATE S-1001.

Round Frame Composition Port Light, with one clamp, for wood vessel.

Dia.	Fl.	Pol.
3"	\$2.50	\$4.00
4"	2.75	4.25
5"	3.15	4.80
6"	4.40	6.00
7"	5.50	7.25
8"	6.50	8.25
9"	8.00	11.00



PLATE S-45.

The "Lotus" Round Flange Pump Water Closet, round client rigidity to flushing rim bowl, prevent springing composition supply and discharge pump, quick-opening supply valve.

As shown.....\$35.00  
Dimensions, 14" back to front, 18" wide, 11" high to top of bowl.



PLATE S-1008.

Full Line of Ventilators, Bath Tubs, Showers, Basins, Sinks, Gasoline and Bilge Pumps Shown in Catalog "R" Free Upon Request

### A. B. SANDS & SON COMPANY

Largest Manufacturers in the World MARINE PLUMBING SPECIALTIES 22-24 Vesey St., New York, U. S. A.  
1849 — "OVER SIXTY YEARS OF QUALITY" — 1913



**M. M. Meyers Sales Co.**  
224 North 11th St. Philadelphia Pa.



**W. C. Disbrow Jr.**  
71 Cortlandt St. New York N.Y.



**S. V. B. Miller**  
72 Marion St. Seattle Wash.



**R. W. Thompson**  
114 Light St. Baltimore Md.



**W. L. Masters & Co.**  
150 N. South Water St. Chicago Ill.



**California Gas Engine & Motor Boat Co.**  
76 Clementine St. San Francisco Cal.



**W. J. Forbes**  
243 Columbus Ave Boston Mass.



**Marine Construction Co.**  
Toronto Ont.



**Wallace Bros.**  
Box 17 Norfolk Va.

## SERVICE STATIONS of the GRAY MOTOR CO.

Repair parts for all Gray Models—valuable suggestions in selecting the right motor and equipment—expert advice as to the proper installation of the same

—in fact a complete factory service is rendered by our service stations located in the principal cities throughout the world.

Our sole aim in establishing these factory service stations is to give Gray owners the most prompt and liberal service possible.

And this world-wide service is mighty important to all Gray owners.

It eliminates the possibilities of annoying delays or loss of time—it gives the pleasure boat owner more confidence, hence more pleasure from his outfit—it assures the owner of commercial craft that he can operate on schedule time without danger of costly delays.

This is, without question, the most complete service of its kind in the world.

The photographs show only a few of our larger service stations; in addition we are represented in

Houston, Texas—New Orleans, La.—Los Angeles, Cal.—Portland, Ore.—Tacoma, Wash.—LaCrosse, Wis.—Madison, Wis.—Cincinnati, Ohio—Erie, Pa.—Buffalo, N. Y.—Montreal, Quebec—Vancouver, B. C.—and hundreds of other cities in United States and Canada.

### Foreign Service Stations:

London, England—Berlin, Germany—Helsingfors, Finland—St. Petersburg, Russia—Stockholm, Sweden—Arendal and Bergen, Norway—Barcelona, Spain—Cape Town, South Africa—Buenos Ayres, Argentine, Rio de Janeiro, Venezuela and Peru, South America—Mexico City, Mex.—Sidney and Perth, Australia—Adelaide and Melbourne, South Australia—Auckland, N. Z.—Latrobe, Tasmania—Shanghai, China—Yokohama, Japan.

We would like to send you our big, valuable engine book and tell you more about Gray Motors and Gray Service—write for a copy today.

Gray Motors are made in sizes from 3 to 36 H. P., 1, 2 and 3 cylinders  
**\$55 and upward**

Including the above list there are over 1,000 dealers that sell Gray Motors and give Gray Service.

**GRAY MOTOR COMPANY**  
574 Gray Motor Bldg., Detroit, Mich.



# Poor oils do their dirty work unseen

—and yet thoughtless owners keep on using poor oil.

That's why the men who build motors and stake their business reputation on them are taking up Wolf's Head Oil and vigorously advising its use.

Such famous manufacturers as

**Van Blerck Motor Co.**

Makers of engines in the "Kitty Hawk II," "Gretchen II," "Reliance IV," "Disturber III," etc.

**Gas Engine & Power Co.**

Chas. L. Seabury & Co., Cons.  
One of the largest and most famous manufacturers of power boats and yachts.

**Electric Launch Co.**

Makers of the famous "ELOC" motor boats.

**Crane Brothers.**

Makers of "Dixie IV" engine.

WOLF'S HEAD OIL was selected, without solicitation on our part, for the 35-foot motor boat "DETROIT," on its Trans-Atlantic trip from Detroit to Queenstown—and IT CARRIED NO OTHER OIL.



**Reliance Motor Boat Co.**

Makers of the celebrated "Peter Pan."

**Weckler Boat Co.**

Makers of WECKLER-FAUBER Hydroplanes.

**Scripps Motor Company.**

Builders of motor used in the celebrated "Detroit."

**The Loew Mfg. Co.**

Makers of the famous "LOEW VIOTOR Motors."

**Atlantic Boat Co.**

**Fifield Brothers.**

**Blount & Lovell.**

WOLVERINE LUBRICANTS CO., MAIN OFFICE, 78 BROAD STREET, NEW YORK

Plants: New York City and Franklin, Penna.

*Also Sole Manufacturers of the Famous Packard Oils*

Branches: CHICAGO, PHILADELPHIA, WASHINGTON, BOSTON, UTICA, BUFFALO, PITTSBURGH

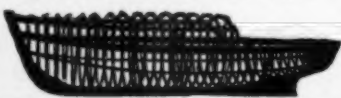
**Territorial Agents:**

W. P. FULLER & CO.	Pacific Coast, Australia and New Zealand	San Francisco	OGDEN PAINT, OIL & GLASS CO.	Ogden, Utah
BUHL SONS CO.	Michigan, Northern Ohio and Northern Indiana	Detroit, Mich.	THE OZBURN AUTO SUPPLY CO.	Memphis, Tenn.
CANADIAN FAIRBANKS-MORSE CO., Limited	All Canada	Montreal	BARTLES-MAGUIRE OIL CO.	Milwaukee, Wis.
THE EQUIPMENT CO.		Kansas City, Mo.	BARTLES-NORTHERN OIL CO.	Grand Forks, N. D.
EVANS OIL WORKS		Cincinnati, O.	ARTHUR STORZ AUTO SUPPLY CO.	Omaha, Neb.
			ELYEA-AUSTELL CO.	Atlanta, Ga.
			SOUTHERN HARDWARE & WOODSTOCK CO.	New Orleans, La.

## Insist Upon Wolf's Head Oil—

## Just As the Motor Manufacturers Do

## MONITOR K-D. BOAT FRAMES



700 SIZES  
All Types and Styles  
Catalog Free



MONITOR BOAT & ENGINE CO.  
CORLE & EMMETT, NEWARK, N. J.

## Marine Hardware



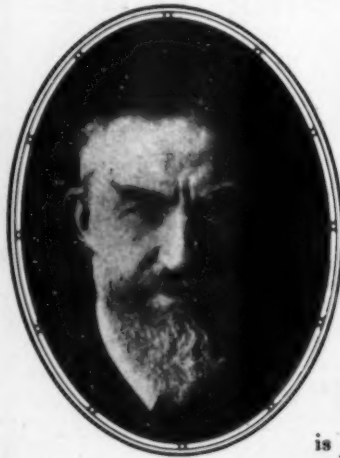
### Yacht and Motor Boat Fittings

Write for 1913 discount Catalogue today, inclosing 8 cents in stamps for mailing

A. S. MORSS CO.

45 HIGH STREET

BOSTON, MASS.



# G.B.S.

## on the Love Affairs of the Married

WHENEVER Bernard Shaw hurls his bolts of satire at "respectability," convention is set on its head and mock modesty and false morality blush at his daring. But the truth is there and, like the great surgeon of social ills that he is, Shaw lays bare the truth, though he cuts to the bone.

In "Overruled"—he strikes at his dearest enemy,—the sham and fraud of the smugly respectable, conventionally moral marriages of modern life. It's brilliant, witty, clever; in a word, it's Shaw at his best. In it, he says:

"Oh! You never gave me the faintest hint that you had a wife."  
"I did indeed. I discussed things with you that only married people really understand. I thought it the most delicate way of letting you know."

"Danger is delicious. But death isn't. We court the danger; but the real delight is in escaping, after all."

"As long as I have a want, I have a reason for living. Satisfaction is death."

"To my English mind, passion is not real passion without guilt. I am a red-blooded man, Mrs. Lunn: I can't help it. The tragedy of my life is that I married, when quite young, a woman whom I couldn't help being very fond of. I longed for a guilty passion—for the real thing—the wicked thing; and yet I couldn't care twopence for any other woman when my wife was about. Year after year went by: I felt my youth slipping away without ever having had a romance in my life; for marriage is all very well; but it isn't romance. There's nothing wrong in it, you see."

Yet under the shock of his audacity and the veneer of his wit lies the deep-rooted truth of it all—for "G.B.S." never writes without a purpose. Splendidly illustrated with four of the best drawings Charles Dana Gibson has ever made, "Overruled" appears in the May number of Hearst's Magazine.

The coupon opposite brings you Hearst's Magazine for 3 months—a 45 cent value—for a quarter. You get all of this scintillating play-story. In addition, Hall Caine's masterpiece, "The Woman Thou Gavest Me," reaches its most thrilling climax in these numbers. Tear off the coupon now for the best 25 cents worth of literature that can be bought.

## Hearst's Magazine

381 Fourth Avenue, New York City

M.B.  
5-13

Hearst's  
Magazine,  
381 Fourth Ave.,  
New York City.

GENTLEMEN:

I want to take advantage of your special offer. The 25 cents enclosed covers Hearst's Magazine for 3 months, beginning with the May issue.

NAME .....

STREET .....

CITY .....

## Mosler Spit Fire

Plugs ARE THE BEST  
A. R. MOSLER & CO.  
P. O. BOX 10  
MT. VERNON, N. Y.

## MARINE MODELS

PATTERN MAKING, INVENTIONS  
DEVELOPED, SPECIAL MACHINERY  
THE H. E. BOUCHER MFG. CO.  
20 FULTON STREET, N. Y., U. S. A.

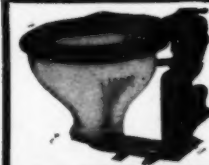


The Success of Gies Reverse Gear is not due to the low price—it's the unflinching service of the machine itself that makes the 30,000 boosters.

Our large quantity production, simple construction and long experience in the field make our low prices possible. Write for description of our 3 models.

GIES GEAR CO.,  
49 E. Fort St., Detroit, Mich.

THE Aaron is the only automatic Bilge Pump on the market that really works automatically, also the only device that will positively rid your pump of the gasoline fumes and thus preventing explosions. Aaron Automatic Bilge Pump Co., Inc., Howard Bldg., Providence, R. I., U. S. A.



### YACHT WATER CLOSETS

Save from \$12 to \$22  
by installing a SCOUT Closet.

As shown, \$28.00  
Goblet-Dolan Mfg. Co.  
285 PEARL ST., N. Y.  
SOLE MAKERS OF  
METAL VALVE CLOSETS

## AERMORE EXHAUST HORN

"The Musical Signal."

The pleasantest and most efficient motor boat, auto and motorcycle signal. Costs absolutely nothing for operation or repairs. Blown by motor exhaust. Cannot clog. Causes no back pressure. Quickly attached.

Write to-day for booklet and prices.

THE AERMORE MFG. CO.

1536 Michigan Boulevard Chicago, Ill.



Greatest Waterproof Clothing Made  
WANTED—Dealers and agents to write for special inducements.

E. A. ARMSTRONG, 500 W. 4th St., Chicago, Ill.

## CHASE Leather

Looks and wears like genuine leather at one-third the cost. Unequalled for motor boat upholstery. Machine-tooth and rubber cloths for spray hoods, covers, etc.

Samples on request.

L. C. CHASE & CO., Boston, Mass.  
New York Chicago San Francisco

## THE AUTO-PNEUMATIC SWIMMING BELT

The No Plus Life Preserver. (Cork isn't in it.)



Hollow aluminum ribs, fine textile covering, non-corrosive air-valve, stopper and fasteners. Self-inflating. Adjusts quickly. Weighs 1 lb. Folds to 5 x 8 in. Waterproof, indestructible. The only practical safeguard for seafarers and bathers—a boon to aquatic sport. Don't risk cheap, flimsy devices. Price, \$6.

AUTO-PNEUMATIC SWIMMING BELT, INC., 399 Broadway, N.Y.

## THE GUARANTEE

of reliability in electrical apparatus in this

TRADE MARK

of the largest electrical manufacturer in the world  
GENERAL ELECTRIC COMPANY

General Offices: Schenectady, N. Y. Sales Offices in 45 Cities, 918

## CAMERAS and Camera Supplies

Catalogue Free

Herbert & Huesen Co.  
311 Madison Ave.  
Room 19, New York City

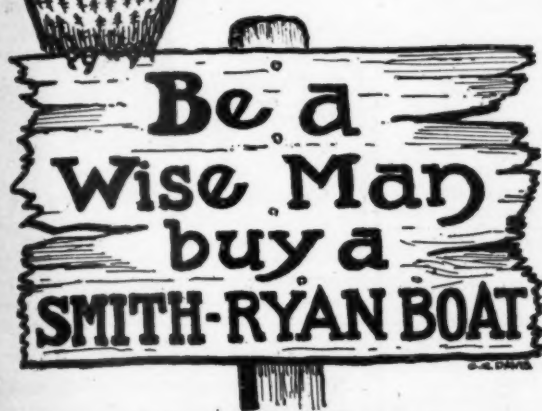




# ALL OFFICIAL RECORDS

## 1 TO 35 MILES

### COME TO US FOR SPEED BOATS



**Building Racing Boats that  
DO things is our  
strong point.**

We are prepared to build racing crafts up to 60 miles an hour guaranteed speed. Built in 20 to 40 foot lengths. Let us know your requirements.

### COME TO US FOR PLEASURE BOATS

Queen Reliance was the hit of the Boston and New York Shows. This type is the fastest — safest — most comfortable and generally satisfactory boat ever produced by any one. Speed from 30 to 45 miles an hour guaranteed. Seating arrangements for four or six people as desired.

Automobile control—gas tank in stern with automatic pressure feed, electric lights, everything in keeping with a high-grade automobile. No noise, no odor, nothing but pure enjoyment and rest.

### BABY RELIANCE II.

Blue prints of the Champion Baby Reliance II. now on sale. Price from \$25.00 for plans and specifications to \$125.00 for K. D. Forms.

Further information upon request.

In no way affiliated with the Reliance Boat Co. of New York.

The HIT of the  
New York and Boston  
Motor Boat Shows



## QUEEN RELIANCE

BABY RELIANCE BOATS

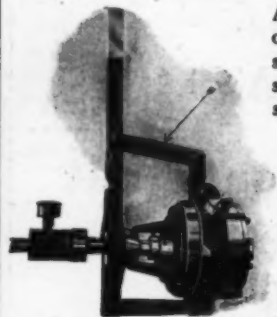
THE BOATS THAT HAVE WON  
**SMITH-RYAN**  
BOAT AND ENGINE CO.

ALCONAC  
DEPARTMENT B

MICHIGAN.

## PARAGON REVERSE GEAR

MANUFACTURED IN TAUNTON, MASS., BY THE  
EVANS STAMPING & PLATING CO.  
FROM 2 TO 300 H.P. HEAVY DUTY.



A real heavy duty gear built strong and substantial with no small or weak parts.

Built to give service and does it. Part of the standard equipment of over 50 engine

manufacturers. Service Guaranteed.

### DEALERS

Walter J. Forbes, 243 Columbus Ave., Boston, Mass.;  
Bowler, Holmes & Hocker Co., 141 Liberty St., New  
York City; J. J. Farley, Machinery Dept., Bureau,  
Philadelphia, Pa.; Unger & Mahon, 119 East York St.,  
Baltimore, Md.; National Boat & Engine Co. of Florida,  
Ft. of Main St., Jacksonville, Fla.; Jas. M. Wait & Co.,  
1806 Michigan Ave., Chicago, Ill.; H. Lippert, 2510 N.  
Eleventh St., St. Louis, Mo.; Marine Engine & Supply  
Co., 121 E. Sixth St., Los Angeles, Cal.; J. C. Shadock  
Engine Co., 315 Third St. So., Minneapolis, Minn.;  
Handled in Canada by the Canadian Fairbanks-Morse  
Co., Ltd.

## W & M REVERSING PROPELLERS SATISFY

There are Reasons.  
Speed, strength, and control are  
some. Our free catalog gives others.



Get the catalog and full par-  
ticulars as to the wheel best for  
your outfit from  
**WILMARTH & MORMAN CO.**  
1168 Monroe Ave.  
Grand Rapids, Mich.

## Six Little Yankees

—the best "carbon killer" on the market. Used by the most experienced motor boat owners. No expense, no scraping, no liquids, no delay. Takes about thirty minutes for Six Little Yankees to rid a motor of Carbon; while the boat is in regular use. They will give a smooth-running engine and increase its power. Motor can be driven with higher spark and less gas. Six Little Yankees are harmless and non-explosive. Each carton contains 72 Six Little Yankees, enough to clean a four cylinder motor three times. Sold by first-class dealers. Price, \$2.00 a box. Beware of imitators. See that this trademark label is on box.



**Six Little Yankees Co.**

407 Bulletin Building,  
Philadelphia

## DETROIT REVERSE GEAR

Starts—Reverses—Stops  
INSTANTANEOUSLY

Nation's  
"Best  
Reverse  
Gear"

All working  
parts  
sub-  
merged in oil  
at all times.

(100)

The Simplest, Most Reliable, Most Compact  
and the Smallest Perfect Marine Reverse Gear ever  
offered. No outside moving parts to throw the oil or  
grime, tear the shaft, bruise the hands or  
catch waste. No noise. Manufactured  
in sizes for from 2 to 20 H. P.  
We carry all sizes in stock for  
immediate shipment. Guaranteed  
for one year. Write for special  
prices and free catalog. Valuable in-  
formation from our Consultation De-  
partment FREE to motor boat men.

Detroit Engine Works, 14 Beaufort Ave., Detroit, Mich.

## CEDAR LUMBER

ANY QUANTITY—ANYWHERE

AT ONCE

We pay freight anywhere in the  
United States

JORDAN BROS. LUMBER CO.  
NORFOLK, VA.

## THE COMET MAGNETO

HOLDS FIRST PLACE

In the minds of hundreds of the leading Gasoline Engine  
builders, jobbers and dealers.

**BECAUSE** of soundness of mechanical design, simplicity  
of construction and Great Electrical Efficiency

IT PAYS TO BUY THE BEST

HENRICKS NOVELTY CO.

1255 St. Paul St.

Indianapolis, Ind.

## KOVEN GASOLINE TANKS

For Gasoline, Air for Whistles, Oil, Water,  
Mufflers, Condensers, etc. Heavy sheet iron  
and plate steel work of any shape desired  
Galvanizing of all kinds of boat work.

**L. O. KOVEN & BRO.**  
22 CLIFF STREET NEW YORK CITY

## OUR SPECIALTIES

Triple Chime Mouth Whistle.....\$1.50  
Combination Horn and Whistle.....2.50  
Gill Bellows Whistle.....3.00  
Gill's Power Whistle.....3.00  
Gill's Mechanical Fog Horns for Motor Boats.....8.00  
Dirigo Whistle Outfit.....22.50  
Dirigo Air Compressor.....15.00

Delivered on receipt of price. Write for booklet.

WALTER COLEMAN & SONS

Marine Outfitters

Providence, Rhode Island

## INST Pocket Life Preserver

You can swim instantly. Carried in pocket. Inflates 3 feet long. Cannot slip off while in use. Makes ocean and lake bathing perfectly safe. Will keep any sized person afloat for several days. Adds 100% to pleasure of swimming. Mailed postpaid for \$1.00. Money back if not satisfactory.

INST LIGHTER CO., 63E. MAIN ST., COLUMBUS, O.

## DRIVER-WIRE ROPE

"TITAN" BRAND PHOSPHOR BRONZE

METAL TILLER ROPE

Strong, Durable, Non-Corroding

DRIVER-HARRIS WIRE COMPANY

HARRISON, N. J.

## ESCO FIRE EXTINGUISHER

Death on Fire Chemical Harmless

Write for our new Accessory Catalog.

EMMONS SPECIALTY COMPANY

240 JEFFERSON AVE., DETROIT, MICH.

## HACKER-HYDROPLANES

KITTY HAWK II, OFFICIAL RECORD, 50.42

GUARANTEED 35, 40, 45 & 50-MILE HY-

DROPLANES AT ATTRACTIVE PRICES.

16, 17, 19-ft. One Design Hydroplanes furnished in Plans, Knock-downs, Complete or with guaranteed speeds of from 20 to 35 miles. Write me for prices.

JOHN L. HACKER, N. A.

313 Hibbard Ave.

Detroit, Mich.

## Barber Engines

SERVICE, LONG LIFE, RELIABILITY AND ECONOMY.

They are distinguished by their original features. The simplicity of the BARBER is its strongest feature and is without a rival for power, equipment and finish. Don't spend your time tinkering with a make-shift. Install a BARBER and forget trouble. We build the size you want. Our catalog tells plain facts—years for asking.

BARBER BROTHERS, Syracuse, N. Y., U. S. A.

## To the Yachtmen Cruising North

Let us put your yacht in commission on your cruise north, for the summer season. We have the most up-to-date and best equipped plant south, and can take care of any size or style boat at short notice. We are catering to one grade work only, and that is the best, at figures lower than northern yards, for reasons of cheaper labor and rent, which shows for itself and which is guaranteed. Oils and supplies. Free water, moorings and wharfage. Clear water to lay, no gas or sewerage.

Builders, Repairs to Hulls, Marine Railway, and a Live Machine Shop.

THE HANN YACHT BLDG. CO., Ferry War, foot Light St., Baltimore, Md.

## DAYTON LAUNCH LIGHTING OUTFIT

for your motor boat this season.

Complete description and prices on request.

THE DAYTON ELECTRICAL MFG. CO.,

186 St. Clair St., Dayton, O.

## THERMOS

CARAFE

with

HOLDER

The ideal vessel for keep-  
ing drinkables cold or hot  
for Motor boats, sailing  
and steam yachts, etc. No  
pleasure craft should be  
without it.

Now provided with a  
strong, tossie Swivel  
Holder which can be  
screwed to table top  
or cabin wall. A lock  
prevents theft of  
the Carafe.

Thermos Carafe  
with Holder.....\$3  
Thermos Carafe.....\$5  
Thermos Bottles  
\$1 up.

On Sale at Best Stores.

If the word "Thermos" is not stamped on the base,  
it's a counterfeit.

AMERICAN THERMOS BOTTLE CO.

New 7 Acre Plant Just Completed

Thermos on the Thames. Norwich, Conn.

New York

San Francisco

Toronto



## DAVIS DINKS

First thing the yachtman thinks of when he needs  
a tender is a "Davis Dink." Row or power—3 to  
14 ft. in stock. Sturdy boats—stand hard service.  
Conveniently arranged for passengers or supplies.  
8 ft. tender weighs 65 lbs.—carries four passengers.  
Catalog free.

The DAVIS BOAT WORKS COMPANY

Washington St.

Sandusky, Ohio

## "YANKEE" SILENT MUFFLER

The only muffler made  
without back pressure or noise  
at all speeds of the engine. Water-tight.  
Made of Galvanized Steel and light in weight.  
Made in various sizes. Over 500,000 in use. For  
sale in New York, by Durkee & Co., Chas. E. Miller.



E. J. Willis Co., John O. Hopkins; Chicago, Geo. B.  
Carpenter, 430 Wells St.; Canada, Canadian Fur-  
banks Co., Montreal, Toronto and Vancouver. Write  
for catalogue. Manufactured only by  
THE "YANKEE" COMPANY UTICA, N. Y., U. S. A.

## SANDOW

MARINE ENGINE

Built Like an Automobile Engine.  
3 to 20 h. p., ready to ship; gasoline or kerosene.  
Drive shafts of all kinds; starts easy; can-  
not backfire; almost noiseless. 5 Year  
ABSOLUTE GUARANTEE—30-Day Trial.  
Three moving parts—women and children  
run it. Demonstrate an engine for us and get yours  
at cost. Be first in territory to get offer.

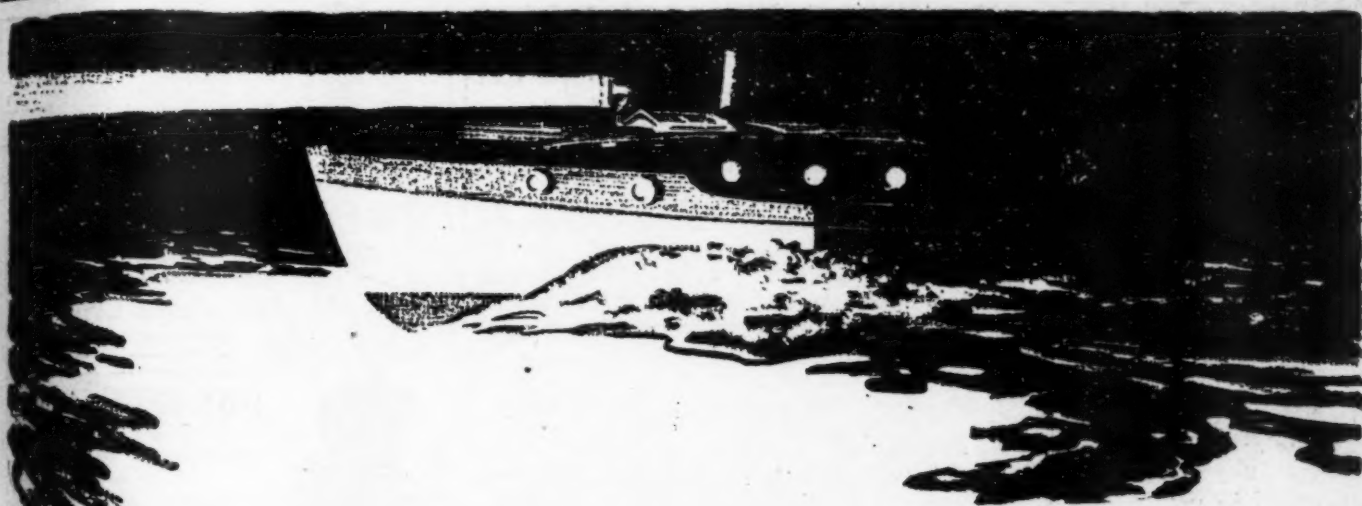
Detroit Motor Car Supply Co., 5 Helen Ave., Detroit, Mich.

Polarine

Best Oil  
Handiest Can

Standard Oil Co. of New York





**Y**OUR motor boat will give you ten times more pleasure this summer if you arrange at once to have it equipped with the complete

## Aplco Electric Lighting System

You don't want to light your boat with gas and oil lamps; it's one of those added risks that need no longer be taken.

The Aplco system gives you the finest kind of a search-light that is scientifically built to project a fog-piercing ray; running lamps of heavy brass that comply with government regulations in every way, and they have no ventilators to let in water: bow and riding lights of the same high quality; dome lamps and brackets for your cabin, and extension hand lamp.

The system is built and designed by Vincent G. Apple, who first devised electric lighting for motor cars in 1907. It is built with the utmost exactness and care in the Apple plant; each system is composed of four parts—a dynamo, driven by the boat's engine, a storage battery, an automatic cut-out, a zero center ammeter or a volt meter and ammeter, the last three items being embodied in the switch-board of the B-2 and B-3 systems.

Find Out About  
"The Right Way  
to  
Light the Way"

Think of the reliability, the complete feeling of confidence such a method of lighting insures for your night riding this season. Our book in regard to the Aplco System is just what you'll want now; send for it in plenty of time to get ready. It gives you the exact detail and information of what you'll want for your boat; how it works; how it never fails.

Write us for special circulars about The Aplglow Lighting System.

**The Apple  
Electric Co.**

78 Canal Street  
Dayton, Ohio



When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



## Complete Launch With Engine Ready to Run \$94.50

16, 18, 20, 23, 27, 28 and 35 footers at proportionate prices including Family Launches, Speed Boats, Auto Boats and Hunting Cabin Cruisers. We are the world's largest Power Boat Manufacturers.

### A NEW PROPOSITION TO DEMONSTRATING AGENTS

Sixty-four different models in all sizes ready to ship, equipped with the simplest motors made; start without cranking; only three moving parts; ten-year-old child can run them. Boats and engines fully guaranteed. 12,500 satisfied owners. Write to-day for large Free Illustrated Catalog.

DETROIT BOAT CO.

1147 Jefferson Ave.

DETROIT, MICH.

EVERY reader of MoToR Boating is a live prospect for the advertiser of anything appealing to the marine trade or boat owners. There is therefore no waste or unproductive circulation. MoToR Boating advertises itself in newspapers, magazines and mediums of general circulation, thus sifting out those boat owners who are susceptible to advertisements and eliminating the disinterested readers. This accounts for the responsiveness of MoToR Boating's circulation.



# Jack London

is a man of the great outdoors. His stories breathe the freedom of the big open spaces of the earth. He takes you with him out on the plains, up on the rugged mountains, and down into the restful, shaded canyons. And the characters he draws are *real* men and women, the people who really *do* things.

Jack London spent five years in writing his last story. He wanted to find the answer to a great problem—and to solve it with fairness. He wrote his solution in "The Valley of the Moon." And he wrote a story that grips. Critics say that it is his greatest. It centers around a man, big and bold, and a woman, slight, beautiful, but whose force and character find a way when every last hope seems lost.

## Howard Chandler Christy

has drawn the illustrations and no one is better fitted for the task. His facile brush delineates the woman of the story with as much spirit as does the author's pen. Christy's superb work is indeed in keeping with Jack London's masterful treatment of "The Valley of the Moon."

Read this great, vital novel. It is the story of the constancy of a woman, guiding the strength of a man, in the struggle for home and happiness—and in the end, winning.

### How To Get The Novel

This intense story began in the April Cosmopolitan. Pin a dollar bill to the coupon below, mail it—at our risk—and we will not only enter your name for an 8 months' subscription to Cosmopolitan beginning with the May issue, but in addition we will send you—absolutely free—the first instalment of "The Valley of the Moon" which we specially printed up in pamphlet form after the unprecedented demand for Jack London had entirely exhausted our April number. Thus you may read the complete novel, and if you don't think the serial alone worth the dollar we will gladly send your money back. Remember, this gripping novel entire for

M.R.  
6-13.

(Cosmopolitan  
Magazine,  
381 Fourth Ave.,  
New York City.)

For the dollar enclosed please enter my subscription to Cosmopolitan for 8 months, beginning with the May number. I am to receive, absolutely free, a pamphlet containing the first instalment of Jack London's story "The Valley of the Moon."

My Name is.....

Street.....

City.....

A Dollar Bill  
and  
This Coupon

# Cosmopolitan

381 4th. Ave. New York N.Y.

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



**WATKINS' SPECIAL MOTORS**  
3 H.P. Single Cylinder - 30 lbs.  
6 H.P. Double Cylinder - 40 lbs.  
12 H.P. Four Cylinder - 120 lbs.  
A strictly HIGH GRADE Motor that will give CONSTANT and EFFICIENT service. Especially adapted for CANOES and LIGHT BOATS. Aluminum base, copper water-jackets, steel shaft, bronze bearings.  
THE WATKINS MOTOR CO.  
524 Baymiller St. Cincinnati, Ohio

**WECKLER BOAT CO.**  
2719 Irving Park Boulevard  
CHICAGO, ILL.

Hydroplanes and Cruisers  
WRITE FOR CATALOGUE



### LISK'S MARINE ENGINES

4 CYCLE ONLY  
1 to 6 Cylinders. 5 to 40 H.P.

Manufactured by

**GEO. A. LISK**

1190 West Jefferson Avenue Detroit, Mich.

## "LAWLEY BUILT"

Means the highest quality of workmanship and finish known to the fine art of boat building. Steam, Gasoline and Sailing Yachts, Motor Boats, Tenders, Launches, Speed Boats, Heavy Duty Gasoline Motors. Write for booklet.

**GEO. LAWLEY & SON CORPORATION**

Neponset, Mass., U. S. A.  
Established 1866. Cable Address, "Lawley Bustin"



### Fairbanks-Morse Marine Engines

High Speed Two Cycle Engines,  
3 1/2 to 24 H.P.

Slow Speed Two Cycle Engines,  
7 1/2 & 15 H.P.

Write for Catalog No. 13151X.

Fairbanks, Morse & Co.,  
900 S. Wabash Ave., Chicago, Ill.

### If you are looking for QUALITY—EFFICIENCY

and one hundred cents' worth for \$1.00, call and see the finest line of the leading two and four cycle Marine engines, Ferro, Stanley, Smalley, Van Blerck, Ideal and Standard. Columbian Propellers. Joe's Reverse Gears.

**GASOLINE ENGINE EQUIPMENT CO.,**

133 Liberty St., New York.

## HOWARD CRUISER \$850.00

The greatest value ever offered for \$850.00. A high grade 23 ft. cruiser with cypress planking, copper fastenings, white oak frame, etc. Best quality throughout. Sturdy enough for any sea. High grade 10 H.P. 4 cycle engine. Complete in all details. Also furnished K. D. complete without engine. Write today for catalog.

HOWARD CRUISER WORKS, Westfield, N.Y.

### Tuttle Marine Motors FOR EVERYTHING FROM A CANOE TO A CRUISER

18 Years' Experience. Unlimited  
Guarantee. Write for Catalog.

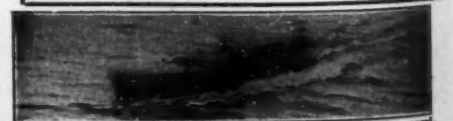
TUTTLE MOTOR CO., 615 Holden St., Canastota, N. Y.

## TREBERT RELIANCE

**GASOLINE ENGINES**  
Poppet Valve Type—4/40, 4/50, 6/50, 8/50, 4/75-Hest Duty. V-Piston Valve Type—8 Cyl., 90-100 H.P.; 16 Cyl., 160-200 H.P. If you wish to reach the mile-a-minute speed, your boat should be powered with our "V"-shape Piston Valve Engine. Write today for complete catalog and prices.  
H. L. F. Trebert Engine Works, 495 St. Paul St., Rochester, N.Y.

### THE WATER CRAFT COMPANY

381 Fulton St., New York, near Hudson Terminal  
Pleasure and Commercial Craft, all sizes, types and prices.  
Rowboats, Canoes, power and rowing tenders.  
Niagara knock-down frames.  
Two and four cycle motors. Boat accessories.  
Direct connected Electric Lighting Sets.  
Our "Dandy Dink" the sensation of the Motor Boat Show.



We have ready for shipment completed hulls, also unfinished hulls from 16 ft. to 30 ft. We furnish knock-down frames and all parts for any size motor boat. Designers and builders of Launches, Cruisers, Auxiliary Yachts and Tenders. Write for prices and description.  
ROBERTSON BROS., Foot of Bay St., Hamilton, Ont.



# WINTON



## MARINE ENGINES

OUR double-page announcement in the April motor boating magazines has made an impression worthy of the fact itself: that the advent of Alexander Winton into the marine motor field marks an epoch in that industry.

From the letters that have come to us from the leading naval architects; from the congratulations of the boat-building fraternity and the motor-boating experts, it has been made very plain to us—as it must be to you—that there can be only one best motor in the “big” class, and that is the Winton Six. We are ready to prove this by any kind of a demonstration.

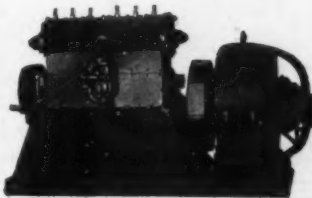
The serious consideration of any other type of motor for large power yachts cannot exist. The naval architect who has been commissioned to design a boat of this character, as well as its prospective owner, is now in a position to figure on a power plant worthy of the largest, finest, motor craft that will ever be built along lines of modern luxury and efficiency.

Complete information in regard to the unequalled Winton Six is at the disposal of naval architects and their clients. We would especially urge anyone who requires a power plant of this size and perfection to write to us at once; our sales manager is ready to lay all necessary details before you at your office. Better still, in carrying out plans of such magnitude, both client and architect will find it well worth while to arrange for a visit to this plant. It cannot help being a source of the greatest interest and inspiration.

### Prices

Horse Power	60-75	100-125	150-200
Price	\$3200	\$5000	\$6800
No. Cylinders	Six	Six	Six
Bore	6 1/4 in.	8 in.	9 in.
Stroke	9 in.	11 in.	14 in.
Rev. per min.	400-500	350-450	350-425
Weight	5000 lbs.	8000 lbs.	12000 lbs.

We have for immediate delivery 150-200 H. P. Engines.



### The Winton Small Generator

We consider this the finest-balanced, the cleanest and smoothest in appearance, the quietest and best proportioned generator set ever offered.

It consists of a 5 K. W. Crocker-Wheeler generator direct connected to a six cylinder T-head 3 x 4 motor with the valves entirely enclosed. So thoroughly quiet is its operation that even when working on its full load, the breaker box on the magneto makes more noise than any other working part on the engine. Its governor is so sensitive that it goes from full load to no load with the least possible variation in its speed load. Its oiling system is automatic and when the machine is once started no further attention is required.

We give as much attention to the building of this small engine as we do to our larger sets, and the workmanship of this motor is what makes it so thoroughly quiet and so smooth in its operation. It is furnished complete with magneto, governor, plugs and carburetor, ready to run.

## The Winton Gas Engine & Mfg. Co.

2116 West 106th Street, Cleveland, Ohio

CHARLES LANG, Vallejo, Cal.

THE SEATTLE CONSTRUCTION & DRY DOCK CO., Seattle, Wash.

TAYLOR & YOUNG, Limited, Vancouver, B. C.

## THE PHENOMENAL RED WING FLYING TWENTY

All Sensations of Flying with the Dangers Left Out

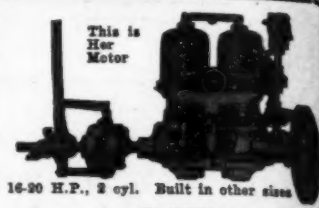


The masterpiece of modern boat science. High speed, real comfort, dash control, elegance and low price.

She's a 20-miler that makes twenty actual miles an hour. Equipped with 2 cylinder, 2 cycle Model C Red Wing high speed motor, or 4 cylinder, 4 cycle high speed Red Wing motor.

Write for catalog, prices and drawings on complete boats of all sizes and kinds and our 2 cycle and 4 cycle motors.

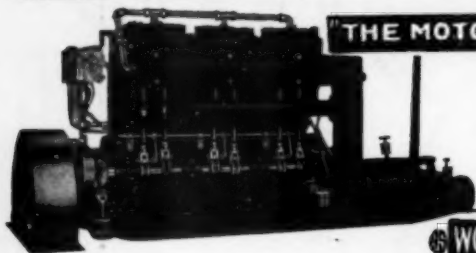
RED WING MOTOR COMPANY



This is  
Her  
Motor

16-20 H.P., 2 cyl. Built in other sizes

Red Wing, Minn.



### THE MOTOR WITH THE BORE AND STROKE

#### FOUR CYCLE WOLVERINE MARINE ENGINE

They Use Kerosene, Gasoline, Alcohol, Distillate, Producer Gas.  
Have no equal for economy, durability, power, reliability and steady service.  
One to Three Cylinders. 5 to 100 H.P.  
Write for free catalog No. 53

WOLVERINE MOTOR WORKS, BRIDGEPORT, CONN. U.S.A.



## COMMERCIAL ACETYLENE

Small tank, conveniently stowed anywhere, supplies a month's lighting.

When empty, easily exchanged for one fully charged.

Always reliable and frequently used as auxiliary to electricity.

## EFFICIENT and ECONOMICAL LIGHTING

NO WORKING PARTS—NOTHING TO GET OUT OF ORDER

### THE "DIFFERENT" SYSTEM

Write for Booklet and Estimate

Commercial Acetylene Railway Light and Signal Company

AGA—DALEN & COMMERCIAL SYSTEMS

80 Broadway, New York



THE

## ORIOLE MARINE ENGINE

COSTS NO MORE THAN OTHER MAKES

More Horse Power—Less Consumption of Gasoline—Than Any Other Heavy-Duty Two Cycle Engine of Same H. P. Rating

5 TO 17 H. P. \$110 TO \$355

PAGE ENGINEERING CO.

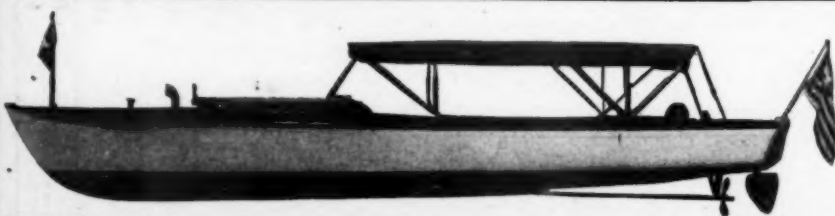
Built in Baltimore  
Running Everywhere

Send for  
our 1912

Model

Catalog A

Hull and Cleggett Sts., Baltimore, Md.



Why the President's Launch is Equipped with the McClellan's Safety Auto Boat Top:

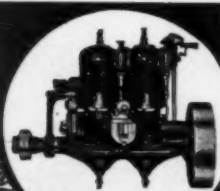
So distinct, so different is the McClellan Safety Auto Boat Top, that

Uncle Sam Has Granted Us a PATENT

That is why we are the only Top Makers in the United States making the Safety Auto Boat Top, or one man control.

Our 1913 Catalog both tells and shows the McClellan Superior Points

CHAS. P. McCLELLAN, Devol Street, Fall River, Mass.



## TOLEDO MARINE MOTORS

This is equipment time. Be sure that you have an engine to satisfy you. Toledo Marine Motors start when you want them to, reverse when you want them to. Have all standard size fittings. Their simplicity and reliability cannot be equaled at these prices.

3 H.P. 1 cylinder,	\$85.00
6 H.P. 1 "	125.00
6 H.P. 2 "	125.00
12 H.P. 2 "	150.00
18 H.P. 3 "	250.00

Catalog sent on request

UNIVERSAL MACHINE CO.

1600 Hicks St.

BOWLING GREEN, OHIO

## 2-Cycle--All Open Base

A dozen superior features. Before placing your order for a gasoline motor, it will pay you to look over our catalogue.

VANGUARD ENGINE COMPANY

18 Tremont Street, Boston, Mass., U. S. A.

RICE 20-FOOT SPECIAL LAUNCH



\$275.

A \$400. Boat For \$275. If you are going to buy a boat don't fail to get our catalogue.

RICE BROTHERS COMPANY, East Boothbay, Maine.



### MORRIS CANVAS MOTOR HULLS

The most serviceable light hull in use. 14 miles per hour, for \$250.00. High grade construction and equipment. Length 20 ft.

B. N. MORRIS, 125 State Street

Yonkers, Me.

## STANLEY MARINE MOTOR

High in Quality Low in Price

THE STANLEY CO.

SALEM, MASS.

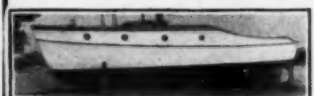
Send for Catalog

## 36 ft. x 8½ Racine Raised Deck Cruiser.

Motor 25 h.p. 4 cylinder 4 cycle. New last season. Cost over \$2,750. Now \$1,875. Other bargains in launches, rowboats and canoes. Telephone Cortlandt 3500.

PROBST-GREIFF CO. Dept. A.

Hudson Terminal, 36 Church St., New York City



30'-6" x 8' V Stern

### RICHARDSON

Anything in the boat line K.D. or Complete

Write for Estimates on your requirements.

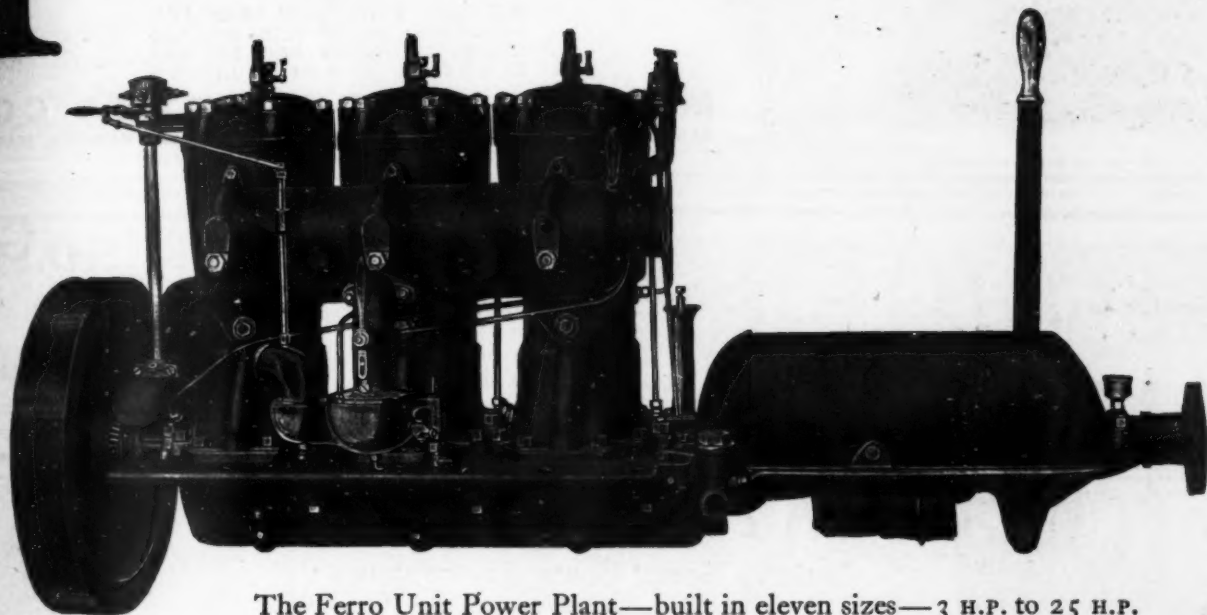
G. R. Richardson

SWEENEY ST. No. TUNAWANDA, N. Y.



*The World's Standard*

# FERRO



The Ferro Unit Power Plant—built in eleven sizes—3 H.P. to 25 H.P.  
Prices range from \$60.00 to \$500.00.

## *The Best-built Motor in America*

*Users say So — Sales Prove It!*

**G**UARANTEED to develop more actual horsepower at its rated revolutions than any other engine of similar size, bore and stroke operated under identically similar conditions.

This guarantee is backed by a company of established reputation both as to the quality of its product and its financial responsibility, owning and operating the largest, most complete and best equipped engine plant in the world.

*1500 Sales representatives scattered in every country and in almost every port in the world emphasize what FERRO SERVICE means to the 40,000 owners and operators of Ferro Engines.*

Send for illustrated catalog.

Let us give you the name and address of our nearest dealer.

## THE FERRO MACHINE & FOUNDRY CO.

Main Office and Plant, 36 Hubbard Avenue and East 66th Street, Cleveland, Ohio, U. S. A.

Ferro Dealers in all principal cities and towns.

New York Distributor, THE GASOLINE ENGINE EQUIPMENT CO., 133 Liberty Street, New York City.

*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.*



PAT. FOR FAST BOATS

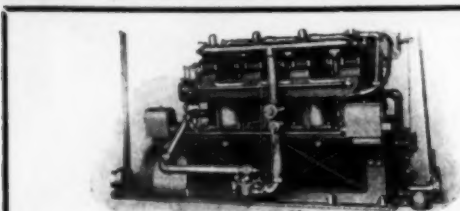
## HITCHCOCK'S AUTOMATIC BILGE BAILERS

**T**HE most satisfactory bilge bailer you could have, regardless of cost. Entirely automatic. Does not use up engine power, and is never in the way. Attached through garboard strake. Self-closing when boat slows up or stops. Made of cast bronze, and will outlast any boat. Write today for full information and prices.



FOR SLOW BOATS

The Automatic Bilge Bailer Co., 119 St Mary's St., Brookline, Mass.



30-40 H. P. Special Engine built for U. S. Govt.

## Gasoline Yachts and Engines

**NOTED FOR RELIABILITY**  
TREGURTHA WATER TUBE BOILERS  
STEAM LAUNCHES AND ENGINES  
ELECTRIC LIGHT OUTFITS

**MURRAY & TREGURTHA CO.**

340 WEST FIRST STREET

SOUTH BOSTON, MASS.



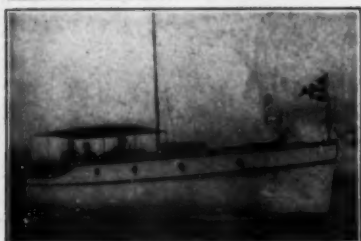
Write today for quotation of your requirements.

## FINISHED CRANK SHAFTS

Let us figure on your Crank Shafts (be it one or one thousand). We manufacture them complete in our own plant—forged from the solid billet, grinding all pins and bearings and supply the finished shaft ready to be installed in the engine.

Forgings of all kinds. Die forgings in quantities from 50 and up. Carbon and Alloy Steels Heat Treated to your own specifications. Drop Forged Cranks Finished.

**P. H. GILL & SONS, FORGE AND MACHINE WORKS, BROOKLYN, N. Y.**



31 ft. Milton Special

## BOATS of QUALITY

Cruisers, Speed Boats, Hydroplanes

**MILTON BOAT WORKS, Rye, N. Y.**

Designers and Builders

STORAGE

REPAIRS

SUPPLIES



Yacht Tenders to Order

## Why Advertised Articles Are the Best Articles



ONE of the first axioms in the science of advertising is that an inferior product cannot be profitably advertised. It won't stand the lime-light of publicity. Advertising costs money and to advertise a product without merit is throwing good money away.

¶ When any article is advertised, that fact is a safe guarantee of its reliability. It shows that the manufacturer has proven beyond question that it meets the public demand. No sane business man will try to build a skyscraper on a quick-sand foundation, and for the same reason no business man will invest a part of his working capital in advertising a product that cannot be built into a permanent success.

¶ Nothing will eliminate an inferior article quicker than advertising. I do not contend that all reliable goods are necessarily advertised goods, but I do contend that all regularly advertised goods are reliable goods.

¶ The advertising section of a successful magazine is an absolutely safe buying guide. In this section of MoToR BoatinG are to be found, for instance, practically all prod-

ucts good enough to be brought before the boating public in a national way. Take marine motors, ignition devices, propellers, varnishes or any other marine product you are looking for. The representative manufacturers in each line use the magazine to tell prospective customers which articles are best adapted to their individual requirements.

¶ Advertising decreases the cost to the consumer and increases the profit for the dealer who handles advertised goods. By facilitating distribution and cutting down selling expense it performs a real service which is similar to the efficiency of the modern railway system as compared with the methods of transporting goods from city to city a century ago.

*J. S. Thibault*

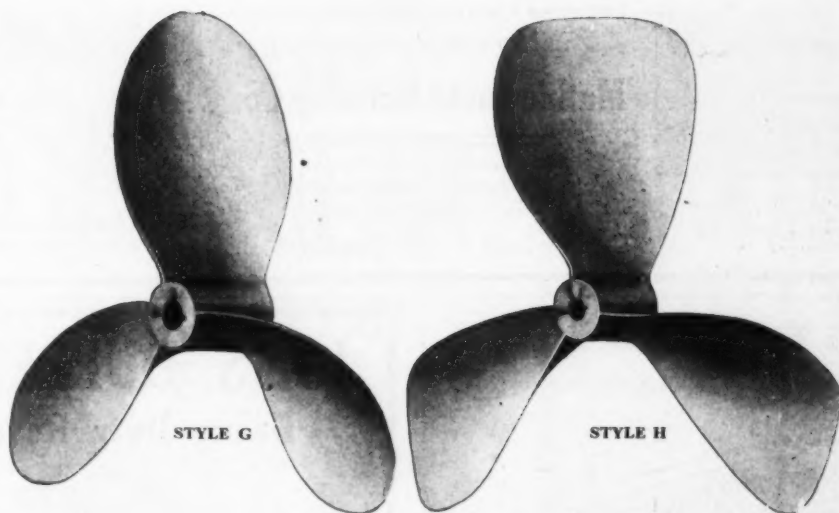
Advertising Manager

**MoToR BoatinG, 381 Fourth Ave., New York**



# COLUMBIAN PROPELLERS MOST POWERFUL IN THE WORLD

FOR  
CRUISERS,  
SMALL YACHTS,  
PARTY BOATS,  
FISHING BOATS,  
and for other me-  
dium duty boats  
using propellers less  
than 30 inches diam-  
eter, we back the  
"COLUMBIAN"  
"Style G" Propeller  
against the world.



FOR LARGE  
OYSTER  
DREDGES,  
FISHING BOATS,  
FERRY BOATS,  
PASSENGER  
BOATS, YACHTS,  
and other heavy  
duty boats, we can  
furnish a "Style H"  
"COLUMBIAN"  
Propeller that will  
beat everything else  
made.



Universal Strut  
fitted with Die-  
cast, Anti-fric-  
tion Bearings  
which can be re-  
placed when  
worn. Aligns it-  
self to any shaft  
angle.

These two "COLUMBIAN" Wheels—styles G and H—together with the "COLUMBIAN" Architects Propeller, which has beaten every-  
thing else on hydroplanes, are the three MOST  
POWERFUL PROPELLERS made any-  
where in the World to-day.

## DON'T BUY

Don't Build, Don't Re-model, Don't Overhaul until  
you read our catalog,

**"PROPELLERS IN A NUT SHELL."**

It also tells you about

## COLUMBIAN RUDDERS

Outboard Rudders	Launch Rudders
Speed Boat Rudders	Universal Struts
Hydroplane Rudders	Universal Stern Struts
Combination Outboard Rudders and Universal Stern Struts	

WRITE

**COLUMBIAN BRASS FOUNDRY**

218 North Main Street

Freeport, Long Island, New York



# MATHIS-BUILT HOUSEBOATS

The half dozen 70-ft. Mathis-built houseboats just back from Florida have been hailed as the best in houseboat progress to date. But we have on our ways, uncompleted, houseboats between 70 and 80-ft. that set new, better standards. And we have evolved further plans so interesting that no man contemplating a houseboat or cruiser



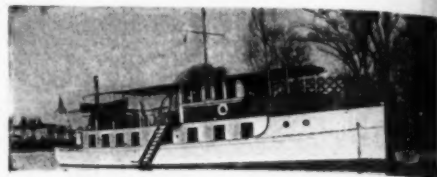
**70-ft. Lanai** owned by Ex. Com. A. C. James, of the N. Y. Yacht Club. Designed and built by us. Has 18-ft. living-room and three large, fine staterooms—every comfort. Draught, 27 inches—goes anywhere.

between 60 and 100 feet should fail to write for details.

**Mathis Yacht Building Co.**

*Specialists in 60 to 100 ft.  
Cruisers and Houseboats*

Cooper's Point - Camden, N. J.



**70-ft. Calabash** designed and built by us for Mr. W. J. Matheson, New York. During past three months it has created great interest through the Chesapeake district.



## Solid Comfort

Carry enough McKinnon Folding Seats to accommodate all the passengers your boat will hold. It will increase its comfort and pleasure giving value fully 100%. The curved back and padded waterproof upholstery insures a degree of comfort which you simply cannot duplicate. Adapted for use on small motor boats, skiffs, sailboats, yacht tenders, canoes, etc.



When folded the McKinnon Boat Seat is only  $13\frac{1}{2}$  x  $14\frac{3}{4}$  x  $6\frac{1}{2}$  inches. You can stow several under the bow or stern deck. Opened or folded in a second. Ample strong, but very light in weight.

These seats are made of selected rod steel. As rust proof as good plating or japanning can make them. No bolts, nuts or screws.

Write today for prices and give your dealer's name.

Ask About



Our Chairs

**McKINNON DASH CO.,**  
BUFFALO, N.Y.

Mr. Manufacturer:—Are you one of the few not using

## STAR THRUST BALL BEARINGS

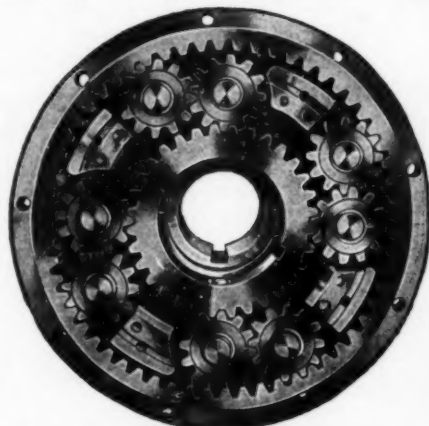
in your Motors? If you are, you are not receiving the best results. Send us your Blue Prints.



**The Star Ball  
Retainer Company**

Lancaster, Pa.

## JOE'S DUPLEX DRIVE Heavy Duty Reverse Gear



Section Showing Quadruple Gearing

The only heavy duty gear on the market that has same speed ahead and astern that does not depend on locked gear teeth for the forward drive.

Send for 1913 catalogue

**THE SNOW & PETRELLI MFG. CO.**

New Haven, Conn., U. S. A.

Manufacturers of Heavy Duty and High Speed Reversing Gears, One Way Clutches, Rear Starters, etc.

AGENTS:—J. King & Co., 10 Church Row, Limehouse, London, Eng. L. H. Coolidge Co., Seattle Wash. The Canadian Motor & Supplies Co., Montreal, Canada. Gasolene Engine Equipment Co., 133 Liberty Street, New York. Chicago Boat & Engine Co., 1508 Michigan Blvd., Chicago.



## KNOW YOUR SPEED

### SANBORN MARINE SPEEDOMETER

The first Mechanically Perfect marine speedometer. It shows your exact speed, from which you can figure distances, tides, currents and locations. Enables you to experiment with different equipments, such as motors, ignition, carburetor adjustment, oils, greases, propellers, etc., until you have your whole boat tuned up to the highest pitch of efficiency. In fog, at night, when cruising in strange waters, or following a chart, it eliminates guesswork and adds greatly to your safety.

The principle and construction are so simple that this speedometer should last a lifetime without trouble.

Write today for information and prices.

**AMERICAN STEAM GAUGE & VALVE MFG. CO.,** Boston, Mass.  
New York Chicago Boston Atlanta Pittsburgh



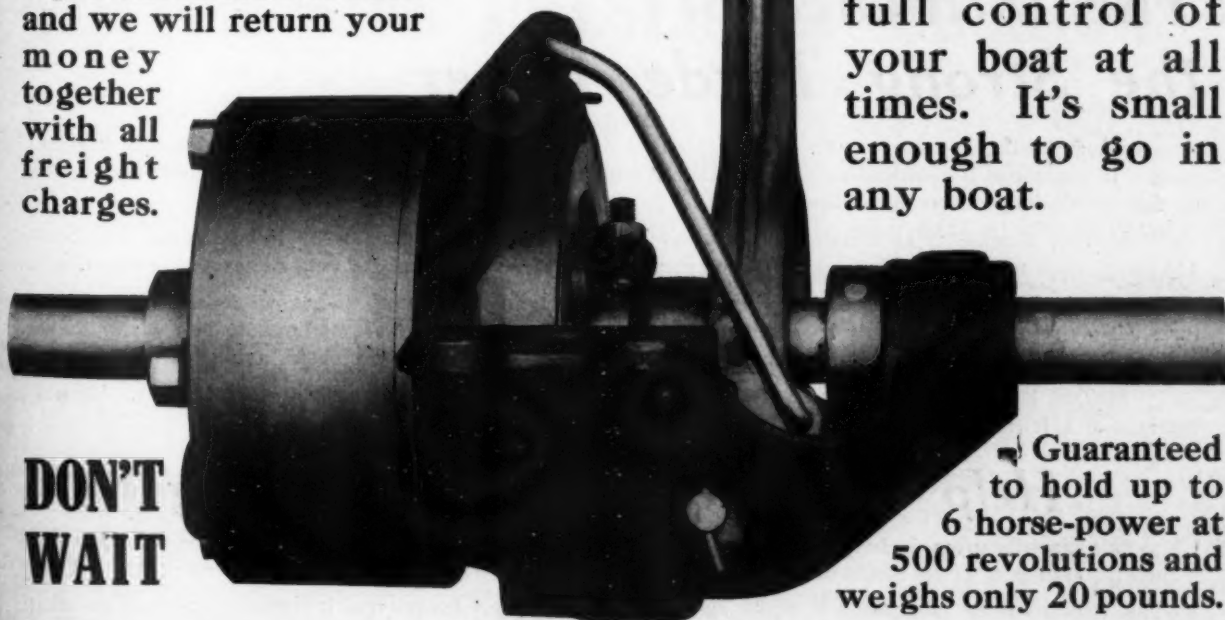


**\$10 == \$10 == \$10**

**HERE IS THE  
REVERSE GEAR  
YOU WANT FOR  
YOUR BOAT**

It's a Little Dandy — the best you can get and it's guaranteed for 5 years against any breakage or defects due to improper workmanship or defective material.

**SEND** us your order now and if after getting gear you find it is not as represented send it back and we will return your money together with all freight charges.



**DON'T  
WAIT**

**THE  
NATIONAL  
REVERSE  
GEAR**

is built right and operates perfectly. The material used is the best we can get. The Gears are hardened and run in an oil bath. Think of it: For \$10 you can have full control of your boat at all times. It's small enough to go in any boat.

Guaranteed to hold up to 6 horse-power at 500 revolutions and weighs only 20 pounds.

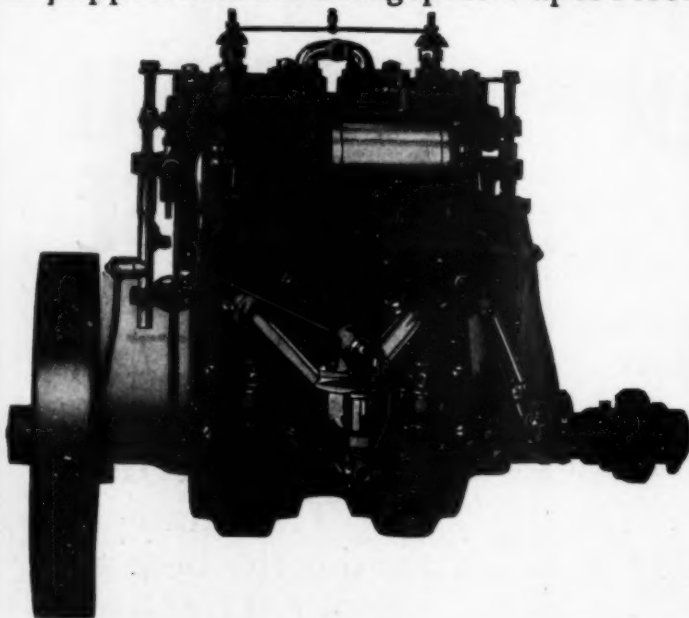
**\$10 NATIONAL GEAR CO. \$10**  
1526 Jefferson Ave., Detroit, Mich., U.S.A.

The  
Most  
One



Could  
Wish  
For

Equipped with the Bridgeport Vapor Rectifier—Absolutely no base explosions—no danger, no stalling at slow speed—flexible control—fuel economy.



Our 1913 models fitted with the **BRIDGEPORT OIL TRANSFORMER** may be operated with complete success on

## KEROSENE

We are now shipping 1913 models. Make and break or jump spark ignition,

*Send for free catalog "B"*

**THE BRIDGEPORT MOTOR CO., Inc.**  
BRIDGEPORT, CONN. U. S. A.

## The Influence of the Strong Trade Paper

A strong, authoritative trade publication like MoToR BoatinG is of tremendous value to the industry it represents. It stimulates the enthusiasm of the reader, creates new devotees of the boating sport and enlarges the market for all the products in this line.

MoToR BoatinG is an educator. It teaches its readers how to get the most enjoyment out of their boats and brings them on a large scale the information they would otherwise gain only by long and expensive experience.

As a buying guide, the advertising in MoToR BoatinG is just as valuable to readers as any editorial features. They refer to it constantly because it gives them the information they must have, to buy wisely. This enables them to compare competing products carefully and select the ones best adapted to their particular use.

MoToR BoatinG has the entree of the buyer's home—it reaches him in his private deliberations. He welcomes it as a friend to advise him instead of as a salesman to influence him.

## Help Your Dealers by Advertising

Up-to-date manufacturers do not consider their product sold when it has only reached the dealer. They follow it through until it is in the hands of the consumer.

MoToR BoatinG is the most tangible dealer aid known. All the best dealers read it regularly and they see what is being done for them in the way of advertising by the manufacturers they represent. Their appreciation is shown by increased loyalty for the manufacturer and enthusiasm for the product.

**J. S. HILDRETH**  
Adv. Mgr.

**MoToR BOATING**

**381 Fourth Ave.**  
**New York**



## KENYON TOPS DEFY STORMY WEATHER



A Kenyon Auto Style Top on your boat is almost as necessary as a roof on your cottage or summer home.

With an ordinary open boat you miss half the joys of Motor Boating, because you are entirely dependent on the weather.

With a Kenyon Top you can defy the sun and storm. You can be independent of the weather—You can *live* on the water if you like.

Inside the watertight interior, closed in by spray and side curtains, you can let the wind blow up a hurricane and laugh at it.

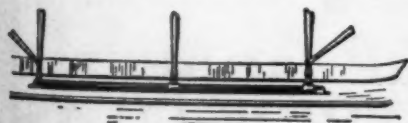
Warm and dry and cosy—the Kenyon Top to protect you from the elements above—you can scorn the danger of capsizing, if your boat seats are provided with

## KENYON LIFE PRESERVER CUSHIONS

They always assure positive safety. Made in a host of different colors and kinds, and guaranteed to fit your boat seats perfectly.

Kenyon Pillows are necessary for comfort, and are always lying around in a handy place to save the man overboard.

### The NEW JIFFY TOP



The Kenyon JIFFY Top is a brand new creation. It costs a little more than our Standard or Heavy Duty, but it will serve you well, especially on a river with numerous bridges to go under.

It can be easily put up or taken down by one or two persons, and will give excellent service for a life time.

Ask for our description in full.

A NEW CATALOGUE with descriptions of the whole line of Kenyon equipment is yours for the asking. ASK NOW. HERE IS A COUPON FOR YOUR CONVENIENCE.

**THE R. L. KENYON  
COMPANY**  
363 Meadow Street  
Waukesha, Wis.

**The R. L.  
KENYON  
COMPANY**

363 Meadow Street  
Waukesha, Wisconsin

Please send me your  
new catalogue describing the  
entire line of Kenyon Motor  
Boat Equipment.

Name \_\_\_\_\_

Address \_\_\_\_\_



## It's the Power Plant

that finally makes the motor boat. The "go" has been put into many a slow boat by the unexcelled

## FAY & BOWEN Perfect Power Plant

Fay & Bowen system of triple lubrication for crank pins is unique. All gearing is completely enclosed, yet easy of access. No engine is quieter, simpler or more easy to handle. Bosch Dual Magneto ignition reduces high tension wiring and requires only one set of plugs, yet provides two ignition systems. Long stroke; intake and exhaust valves mechanically operated; both mechanical and splash lubrication; multiple plate reversing clutch.

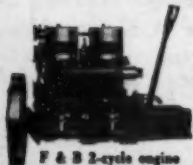
Fay & Bowen four-cycle engines are made in a full line of cylinder sizes—put up in two, four and six cylinders—from 5 to 65 H. P.

If it's the *two-cycle* type you prefer, remember that Fay & Bowen two-cycle engines are the best. Single, double, and triple cylinder construction;  $2\frac{1}{2}$  to 45 H. P. Our two-cycle "Convertible" engines will really run on kerosene!

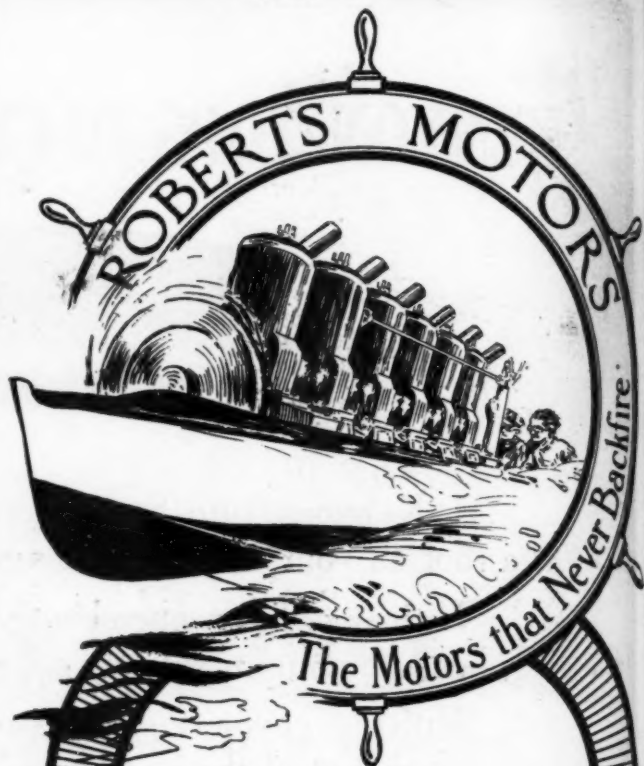
**Fay & Bowen Boats** include a line of different sizes and types from a 21 ft. family launch to our 32 ft. 20-mile "runabout," or a completely equipped cruiser. Our "25 ft. Special" family launch is a familiar sight on Long Island Sound, Lake Hopatcong, the Adirondack Lakes—wherever boat-lovers gather.

**Send for Catalog and Prices**

If you know what you want, tell us.  
If you don't quite know, ask us.



**FAY & BOWEN ENGINE CO.**  
104 Lake St., Geneva, N. Y., U. S. A.



**R**OBERTS MOTORS are built in ten sizes, 3 to 125 H. P., 1 to 6 Cylinders, in Standard, Aerolite and Featherweight types.

Thus, there is a Roberts Motor for any kind of a boat from the tiny hydro-plane or power canoe to the International racer or large work boat.

We can show you where a Roberts has already given the best of service installed in a boat similar to yours.

All Roberts Motors will operate equally well on kerosene or gasoline. This is of value to both buyer and agent. To buyer it means great economy of operation and to the dealer it suggests one of the strongest selling features of the 1913 season.

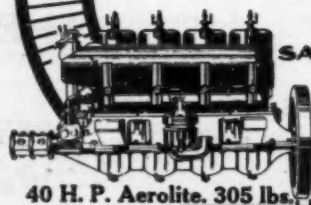
If you are not already familiar with these engines send for a catalog today. If they are known to you, you appreciate their value as a sales proposition, and it is suggested that you write for agency offer.

**THE ROBERTS  
MOTOR CO.**

1501 COLUMBUS AVE.

SANDUSKY, OHIO

U. S. A.



40 H. P. Aerolite. 305 lbs.





HARRY M. JONES, the Aviator,  
Wearing a "Neversink" Coat

## IT IS TOO LATE FOR US TO HELP

The countless thousands who have been drowned, but the pity of it is that these drownings are still going on, that people are still risking their lives needlessly on the water, and this we *can* help and prevent, for to wearers of

# THE NEVERSINK COAT

## Drowning Is an Absolute Impossibility

and it is no trouble or inconvenience to wear the "Neversink" Coat. The coat is light and comfortable and is to all intents and purposes an ordinary coat.

*It should be worn by every man, woman or child who ventures on the water*

Members of your family will go upon the water this summer.  
You should see to it that they at least are protected.

The "Neversink" Coat is made of khaki and lined with a special fibrous material as soft and pliable as down which has four times the bouyancy of cork.

**NO CORK—NO INFLATION. THE COAT ITSELF KEEPS YOU AFLOAT**

### TESTIMONIAL

WRIGHT & DITSON, 344 Washington Street,  
Boston, Mass., July 11, 1912.

AMERICAN LIFE-SAVING GARMENT CO.,  
57 State St., Boston, Mass.

Gentlemen:

I am writing to tell you that without a doubt your coat saved my life last Saturday when my boat sank off Marblehead, Mass., during a squall, and indirectly saved the fellows with me, as it enabled me to get their trousers and shoes off. We were in the water twenty minutes before help came, and I, personally, cannot keep above water ten minutes under the best conditions; so you see the coat came in very nicely. Under the circumstances, I feel that it is my duty to write you this letter.

Yours very truly,  
IRVING C. WRIGHT.



C. N. Mankowski, owner and helmsman of "Ankle Deep," wearing "Neversink" Waistcoat. 32 ounces.



W. Van Nostrand, helmsman of "Baby III," wearing old-style life-preserver. 7¼ lbs.

## The Neversink Waistcoat

Possesses the same floating power as the coat and may be worn under an ordinary coat. If your dealer does not handle these garments, write us direct.

*Write Today for Illustrated Booklet*

**Our Guarantee—Satisfaction absolutely guaranteed or your money back.**

## AMERICAN LIFE SAVING GARMENT COMPANY

57 State Street, Boston, Mass.

# THE JOHNSON MARINE REVERSE GEAR

Three  
Sizes  
from  
1  
to  
40  
H. P.

# ANY LIVE AGENT A JOHNSON VANADIUM STEEL GEAR IN ANY CITY



This case design is being imitated by manufacturers of cheap equipment.

Ask for the Johnson and get quality goods, as the best is none too good when danger is near.

## INSTALLED

EASILY, IN THE MINIMUM OF SPACE ON ACCOUNT OF ITS COMPACTNESS

AND

## OPERATES

WITH A SMOOTH, POSITIVE ACTION, WITHOUT GRATING, NOISE OR JAR

## GUARANTEED

FOR ONE YEAR IF PROPERLY INSTALLED AND OPERATED

Specify,

# JOHNSON AND QUALITY

AS A PART OF YOUR 1913 EQUIPMENT

**THE GEAR YOU WILL EVENTUALLY USE**

PLACE YOUR ORDERS NOW FOR LATER DELIVERY

AGENTS DESIRED IN EVERY TERRITORY

CARRIED IN STOCK AND FOR SALE BY:

Eastern Marine Motor Sales Co., 136 Liberty St., New York City.  
Oscar A. Erickson, 75 Taft St., Pawtucket, R. I.  
Dan Kidney & Son, 1115 Michigan Blvd., Chicago, Ill.  
Nichols & Wright Motor Co., 44 So. Division St., Buffalo, N. Y.  
R. Stephens & Sons, 65 Fields Point, Providence, R. I.

Motor Boat & Auto Supply Co., 311 Main St., Cincinnati, O.  
Sparks Boat & Engine Co., Alton, Ill.  
Auto Engine Works, University Ave. & Griggs St., St. Paul, Minn.  
Baker Foundry & Machine Co., Amesbury, Mass.  
Percy W. Wheeler, Parker St., Gloucester, Mass.

**THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN**

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



# THE JOHNSON MARINE REVERSE GEAR WILL SELL YOU

The Johnson Friction Clutch in a Double Type is the Heart of the  
**NEW JOHNSON VANADIUM  
STEEL GEAR**

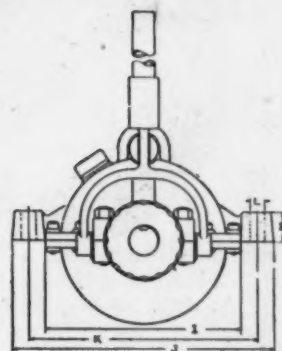
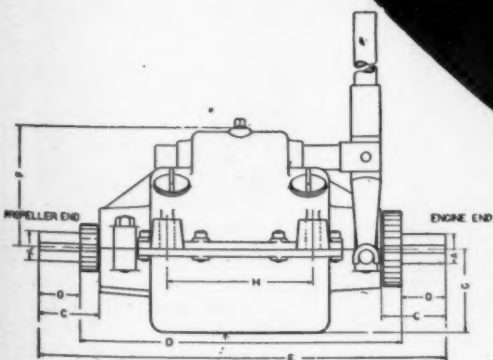
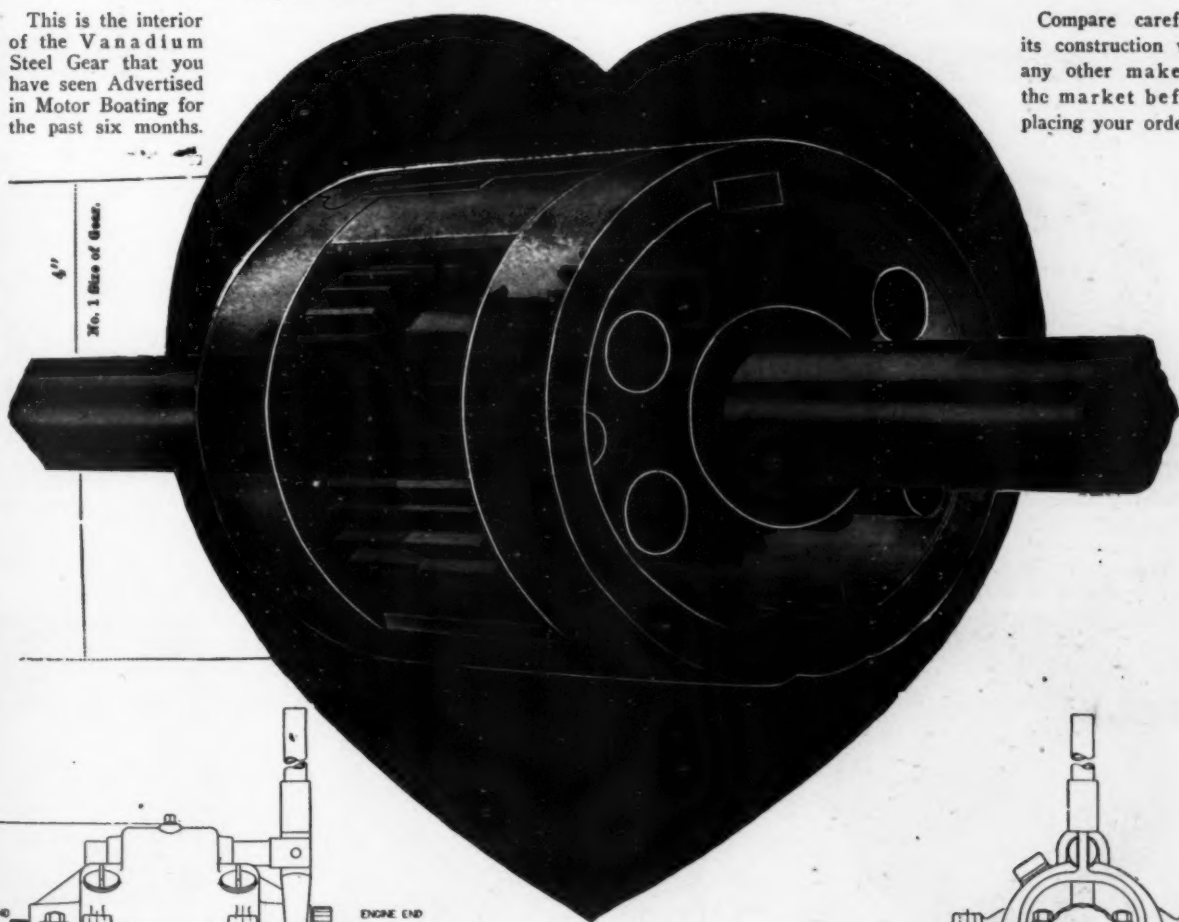
Investigate the Construction of the Smallest and Most Powerful Clutch Made  
30,000 in Use To-Day, in All Countries of the World

*A Poor Clutch Means A Poor Reverse Gear*

Don't buy a gear that looks nice, unless you are sure the works are all right  
If you do not care to experiment, use a Johnson Gear

This is the interior  
of the Vanadium  
Steel Gear that you  
have seen Advertised  
in Motor Boating for  
the past six months.

Compare carefully  
its construction with  
any other make on  
the market before  
placing your order.



WE ARE PIONEERS IN MANUFACTURING REVERSE GEAR OF AN ENCASED TYPE

Gear No.	H. P. Per 100 R. P. M.	H. P. For		WEIGHT		List Price for Cast Iron Case	List Price for Aluminum Case	DIMENSIONS IN INCHES													Splines for a Sq. Key in Eng. and Prop. Shaft Wide Deep	
		High Speed Motors Max.	Slow Speed Motors Max.	Cast Iron Case	Aluminum Case			A	C	D	E	F	G	H	I	J	K	L	M	O		
0	$\frac{1}{2}$	5	3	21	18	\$24.00	\$36.00	$\frac{5}{8}$	$1\frac{1}{8}$	$10\frac{1}{2}$	$13\frac{1}{2}$	$3\frac{1}{4}$	$2\frac{1}{4}$	$4\frac{1}{2}$	5	$6\frac{1}{2}$	$5\frac{1}{2}$	$7\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
1	$1\frac{1}{2}$	15	7	35	30	36.00	48.00	$1\frac{1}{2}$	$2\frac{1}{4}$	$10\frac{1}{2}$	$13\frac{1}{2}$	$4\frac{1}{4}$	$2\frac{1}{4}$	$4\frac{1}{2}$	$6\frac{1}{2}$	$8\frac{1}{2}$	$7\frac{1}{2}$	$8\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
2	3	40	20	90	75	48.00	60.00	$1\frac{1}{2}$	$2\frac{1}{4}$	$15\frac{1}{2}$	$19\frac{1}{2}$	$5\frac{1}{4}$	$3\frac{1}{4}$	$6\frac{1}{2}$	$8\frac{1}{2}$	$11\frac{1}{2}$	$9\frac{1}{2}$	$11\frac{1}{2}$	$1\frac{1}{2}$	2	$1\frac{1}{2}$	$1\frac{1}{2}$

A. S. Morse Co., 43 High St., Boston, Mass.  
O. E. Maxson, 709 Second Ave., No. Troy, N. Y.  
Upton & Gilman Mch. Co., Lowell, Mass.  
Geo. W. Fowler Co., West Palm Beach, Fla.  
Goodhue & Hawkins, Waltham, N. H.

CARRIED IN STOCK AND FOR SALE BY:  
New England Motor & Supply Co., 84 Austin St., Worcester, Mass.  
Julian L. Williams, Norwalk, Conn.  
C. M. Finkle, Buckeye Lake, O.  
Oliver B. Beach, Stony Creek, Conn.  
Nickerson-MacFarlane Machinery Co., Tacoma, Wash.

**THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN**

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

A few EXAMPLES of the justly celebrated 8-Day HIGH-GRADE

# "CHELSEA" Clocks

*Beautiful Cases—Finished Bronze, Old Brass, etc.*

*Ship's Bell or Regular  
Hour and Half Hour,  
Suitable for Finest Resi-  
dences, Clubs, etc.*



Tambour—Style 1



Tambour—Style 2



Mahogany Base "Ship's Bell" Clock

Over 1000 styles in Bronze and Brass, Highly and Refined Finished Cases, etc., to select from. Also many fine Models of Mahogany Cases.

*Used and dealt in by those  
demanding the best*

Very large variety. Sizes from 2 1/4 to 12 inches in diameter of dials; cases in proportion. Prices from \$21.00 to \$250.00. Especially desirable for

## PRESENTATION PURPOSES

The "Ship's Bell" Clocks are especially desirable for use in fine Residences, Clubs, etc. They can be moved from one place to another, without stopping. Put up in attractive cases for use on mantels, etc., etc. IT STRIKES and TELLS the TIME.



Yacht-Wheel  
"Ship's Bell" Clock

Also a great variety of models, in round and other cases, for use on YACHTS, etc., etc.

The small "Ship's Bell" Clock in Cabin or Pilot House



Equip YOUR Yacht or Make a Present to Your Yachting Friend or Club. Nothing equals it

The large BELL outside Operated by the Small Clock



THE CHELSEA AUTOMATIC SHIP'S BELL OUTFIT  
The Ship's Bell Clock in the Cabin Rings the Large Ship's Bell Forward. Also suitable for Country and Seashore Estates. Attractive, Useful and Decidedly Nautical.



"Special" Auto Clock

Also a large variety of other attractive models, meeting practically every requirement, for use on dashboards, and also for use on MOTOR BOATS.

**YOU want the BEST? Ask your Dealer for the "CHELSEA" Clock—Best in the World. On sale by largest high-class retail Jewelry houses and dealers in Nautical Instruments, Yachting Supplies, etc. etc.**

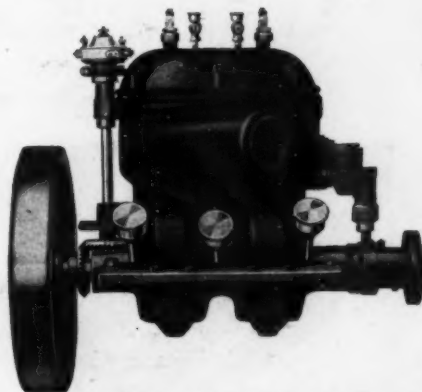
**CHELSEA CLOCK CO., 16 State Street, Boston, U. S. A.**



# The Matchless Eagle at a Matchless Price

## This Is the Momentous Time of the Year

This is the time of year when every one interested in boating is planning for the season's pleasure. The demand for engines, supplies, and fittings will be urgent, and it will be important to supply this demand, and do it promptly. Of course, we are interested in the supplying of engines. Our line was never so complete as it is for the 1913 season. Our capital enables us to manufacture large quantities of engines during the winter months. We have "Eagle" engines for immediate shipment, just when you want them, and that in most cases, results in a sale. If you are a legitimate boat builder or dealer, our selling plans are such that you can purchase "Eagle" engines. We want you to feel free to come to us, even though you have never talked our product. "Eagle" engines are made so good and are sold at such attractive prices that a lucrative business is in store for you. There is a great advantage in associating yourself with a big, live institution, one competent to co-operate with you, one that can deliver the goods when wanted, one whose product has enjoyed for many years the confidence of the trade. Take a good look forward, think it over seriously, and let us get together.



1913 High Speed Double Cylinder, 7-H. P. Model "2K," Bore 3 3/4—Stroke 3 1/4—Weight 136 lbs.

**Completely Equipped** with Excelsior float-feed marine carburetor, with option of Schebler carburetor, "Black Eagle" spark plugs, roller contact timer, bronze plunger pump with self-contained check valves, priming cup, grease cups, ball thrust bearings, flange coupling, "Eagle" water-cooled exhaust silencer, wrenches, screw driver, can of cylinder oil, can of grease, two oil cans, lag screws, and instruction book.

**PRICE \$95.00**

16 other models to choose from

## THE STANDARD COMPANY, Torrington, Conn.

Our 1913 catalogue is worth writing for, and a request will bring it by return mail

### DISTRIBUTORS

BALTIMORE, MD.—Unger & Mahon, 119 East York St.  
 BOSTON, MASS.—Arthur P. Homer, 154 State St.  
 BRUNSWICK, GA.—Wright & Gowen, Bay & Oglethorpe Sts.  
 CHICAGO, ILL.—Robert H. Richter, 4739 Evanston Ave.  
 CLEVELAND, O.—Motor Boat & Supply Co., 1411 West 9th St.  
 EASTPORT, ME.—Cecil P. Chaffee.  
 GALVESTON, TEX.—Barden Elec. & Mach. Co.  
 HOUSTON, TEX.—Barden Elec. & Mach. Co., 111 Main St.  
 JACKSONVILLE, FLA.—National Boat & Eng. Co., Ft. Main St.  
 LOS ANGELES, CAL.—Joe Fellows Yacht & Launch Co., 551 So. Los Angeles St.  
 MOBILE, ALA.—Marine Supply Co., 14 St. Michael St.  
 NEW ORLEANS, LA.—Stauffer, Eshleman & Co., Ltd., 511 Canal Street.  
 NEW YORK CITY—Bruns, Kimball & Co., 132 Liberty St.  
 PHILADELPHIA, PA.—W. E. Gochenaur, 631 Arch St.

PORTLAND, ME.—A. P. Homer (branch), 180 Commercial St.  
 SAN DIEGO, CAL.—Bay Region Machine Wks., 240 D St.  
 SAVANNAH, GA.—Osborne Marlow Co., 129 Congress St.  
 SEATTLE, WASH.—The Standard Co., 1628 Broadway.  
 SAN FRANCISCO, CAL.—Splitdorf Elec. Co., 1028 Geary St.  
 SIOUX CITY, IOWA—Central Machine Wks., 613 Third St.  
 STAMFORD, CONN.—Power Equipment Co., Fleming's Dock.  
 TACOMA, WASH.—Nickerson, McFarland Mach. Co.  
 WILMINGTON, CAL.—Joe Fellows Yacht & Launch Co.  
 CENTRAL CHEBOGUE, N. S.—Geo. R. Beveridge.  
 MONTREAL, CAN.—Shea Sales Co., 296 St. James St.  
 NEW GLASGOW, N. S.—Maritime Packers, Ltd.  
 ST. JOHNS, N. F.—Reid Newfoundland Co.  
 ST. JOHNS, N. B.—C. T. Merritt Co., 1, 3 and 5 Nelson St.  
 TIGNISH, P. E. I.—J. H. Myrick & Co.  
 TORONTO, CAN.—Sherman-Cooper Co., 1051 Eastern Ave.



## A MOTOR BOAT IN A SACHEL

**Y**OU will never know the real joys of motor boating until you are able to carry the "power of a motor boat" wherever you wish, and attach it in less than one minute to any rowboat regardless of angle or depth of stern. The



weighs but 50 lbs., drives a rowboat eight miles an hour, is reversible, has a weedless propeller, is constructed of bronze and nickel steel, and built like the finest of automobile engines.

It drives a rowboat through the waves with a gentle purr of its two full horsepower, and as you feel the joy of gliding over the water you will know it as the greatest of all summer pleasures. It is so simple that a child can operate it.

Beautifully illustrated catalog will be sent you free, upon request.

### EVINRUDE MOTOR CO.

128 T Street Milwaukee, Wis.

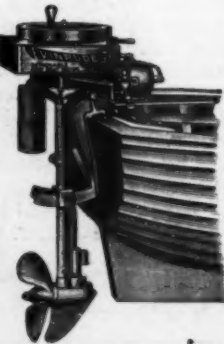
Members of Nat'l Ass'n of Engine & Boat Mfgs.

New York City Show Rooms, Hudson Terminal Bldg., 30 Church Street.

Seattle Representatives:

Woodhouse Gasoline Engine Co.,  
62-64 Marion Street.

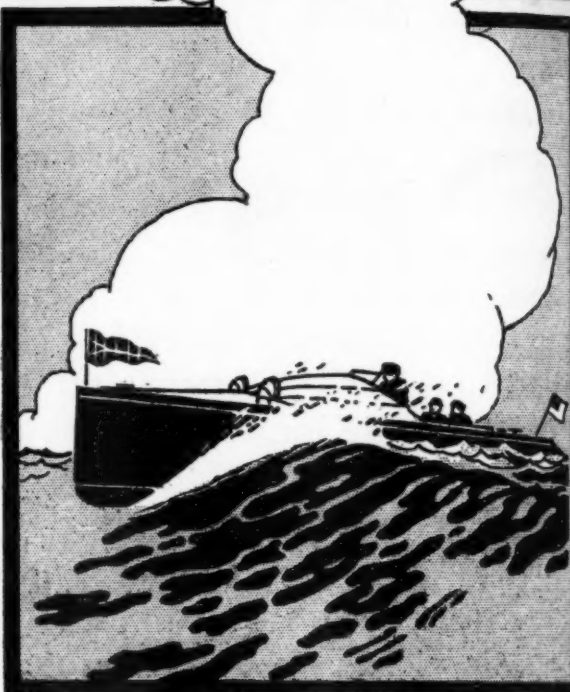
California Show Rooms, 423 Market Street, San Francisco, California.



# HARRIS

TRADE MARK REG. U.S. PAT. OFF.

## OILS



## Speed Like the Wind— Added Power Increased Efficiency

All to be had if you use the best lubricants in your engine. HARRIS OILS dominate the automobile field. They are recognized as superior, by every unbiased motorist, dealer and supply man.

The same high QUALITY that has given HARRIS OILS their predominance in the automobile field, has won the same recognition in the motor boat field.

Try ONE can. It doesn't cost much to prove the QUALITY. Isn't it worth while to get greater engine efficiency at less cost?

Let us tell you more about these lubricants. If your dealer doesn't handle HARRIS OILS—we'll gladly supply you direct.

### A Little Goes A Long Way And Every Drop Counts.

## A. W. Harris Oil Company

326 S. Water Street,

PROVIDENCE, R. I.

13 No. Wabash Avenue,

CHICAGO, ILL.



# EDISON BSCCO

## PRIMARY BATTERY

### The Standard Closed Circuit Cell

A technical journal, in a recent issue, describes an open circuit battery as "one which furnishes a constantly diminishing volume of current as the time of service lengthens," and a closed circuit cell as "one which is able to furnish a practically constant volume of current for continued service."

A cell of the open circuit type is suitable for any service which requires current for short periods only, and allows after each demand on the battery sufficient time for it to recuperate.

Sparking a gasoline engine requires practically a constant flow of current; therefore, if the engine is run with any degree of frequency or for several hours at a stretch, a battery of the closed circuit type should be used.

Edison Primary Battery represents the highest degree of perfection yet reached in a closed circuit cell. It delivers its normal uniform voltage throughout its entire life; its life, according to size of cell selected, is eight to twenty times that of a dry cell, and there is no deterioration due to local action, cells drying out or other weaknesses while the battery is idle.

The latest development in Edison Primary Battery, known as the **EDISON-BSCCO**, while possessing all the good features of the older type, are more efficient on account of better mechanical construction of the elements and eliminate the disagreeable features common to the renewal of a wet battery.

The Cheapest Form  
of Battery Energy

**THOS. A. EDISON**  
INC.

261 Lakeside Avenue,  
Orange, N. J.



Complete Edison-BSCCO  
Renewal  
Each Edison-BSCCO complete  
Renewal consists of  
Zinc-Oxide assembled,  
can Caustic Soda, and  
bottle of Oil.



The World Champion  
the Actual Performances of

**THE SCRIPPS**  
COMPLETE  
MARINE POWER PLANT

Have demonstrated conclusively  
that it is the most reliable, internal  
combustion marine engine  
in the world.

Specify Scripps for your boat this  
year—you will be satisfied.

Scripps Motors are made in 1, 2, 4  
and 6 cylinder sizes. 4 to 96 horsepower.  
Regular and Extreme Heavy Duty.

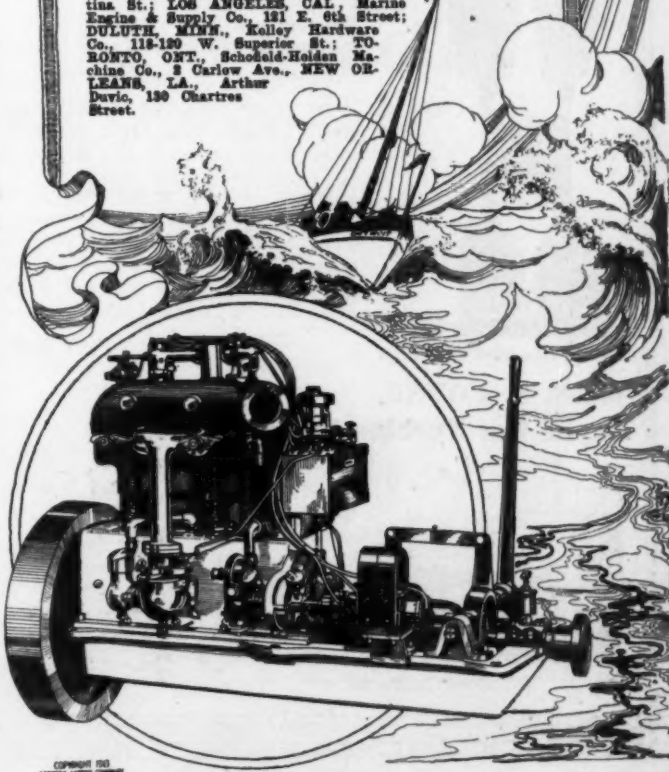
Write for catalogue descriptive of  
our self-starters, kerosene motors and  
special high grade Tender motor, known  
as the "Scripps Midget."

**SCRIPPS MOTOR COMPANY**

631 Lincoln Avenue Detroit, Mich.

Scripps Motors are carried in stock by

NEW YORK, Bowler, Holmes & Hecker Co., 141 Liberty  
Street; BOSTON, Walter H. Morator, 218 State Street;  
PHILADELPHIA, W. E. Gochenaur, 651 Arch Street;  
JACKSONVILLE, FLA., Gibbs Gas Engine Co., Foot of  
Main Street; SEATTLE, WASH., S. V. D. Miller, 72 Marion  
Street; SAN FRANCISCO, CAL., California  
Gas Engine & Motor Boat Co., 78 Clementina  
St.; LOS ANGELES, CAL., Marine  
Engine & Supply Co., 181 E. 6th Street;  
DULUTH, MINN., Kelley Hardware  
Co., 118-120 W. Superior St.; TO-  
RONTO, ONT., Schofield-Holmes Ma-  
chine Co., 2 Carlow Ave., NEW OR-  
LEANS, LA., Arthur  
Davis, 130 Chartres  
Street.



# HYDE TURBINE TYPE PROPELLERS



Are the Most Efficient

For Speed, Pleasure and  
Commercial Boats



Unexcelled in design, material and workmanship.  
Made in diameters and pitches to suit all conditions.

## The Irish Pneumatic Clutch Control

The latest and best method of controlling the engine from the steering stand or station, using air from the whistle tank.

Hyde Windlass Co. - - - Bath, Me.

## Speed Increased $16\frac{2}{3}\%$ Fuel Saved 30% COYNE BOX TURBINE PROPELLER



Pat. Applied for.

### SPEED POWER ECONOMY STRENGTH

Whether you have a launch, cruiser, hydroplane or commercial boat, here is a way to greatly increase the efficiency of your equipment without changing your boat or installing a new engine.

The Coyne Box Turbine Propeller is destined to revolutionize modern standards of wheel design for all types of boats from the little power canoe to the largest battleship.

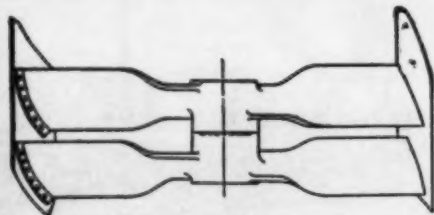
Naval architects, marine engineers, experienced propeller pattern-makers and boat owners who have tried this propeller report many exclusive advantages. We recently equipped the San Francisco Police Patrol Boat with a Coyne Turbine Box Propeller

which increased the speed from barely 9 to 12 miles per hour—over 33 per cent. Telegrams confirming this fact were received by MoToR Boating from responsible authorities in San Francisco, including the following: D. A. White, Chief of Police; Gunwald H. Lundberg, John Lattimer, Edward F. Cotter, Engineers of Police Boat; W. A. Rasmusen, Supt. Key Route Ferries; Capt. Henry C. Peterson, launches and tug boats and former noted oarsman.

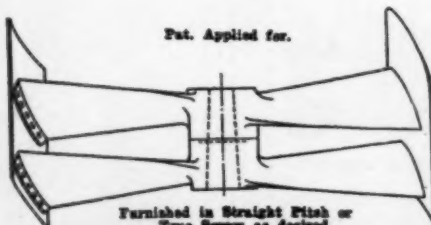
Full information upon application

W. E. S. COYNE,  
Coyne Box Turbine Propeller Co.

Grand Union Hotel, Suite 205, Kearny and California Sts.  
SAN FRANCISCO, CAL.

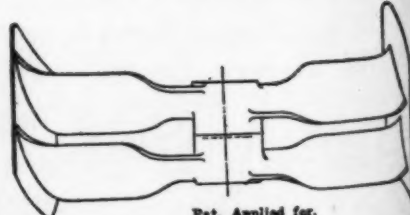


Pat. Applied for.



Pat. Applied for.

Furnished in Straight Pitch or True Screw as desired.



Pat. Applied for.





## WHY A DOMAN? ASK AN OWNER

**T**HE question "Why a Doman?" is best answered by seeing a Doman in operation. You can't fail to be forcibly impressed by its smooth, quiet, steady running, by its utilization of every power impulse and by the remarkably little attention required to keep it running *right* all the time. But—if you can't enjoy the pleasure and satisfaction of watching a Doman deliver full power at every stroke of the piston, be guided by your judgment after carefully studying the mechanical details of Doman Motors. Consider every part—note its correct pro-

portion in relation to other parts—keep in mind the high grade of materials we use—study the design from every standpoint—then you will realize why Doman Motors give lasting satisfaction.

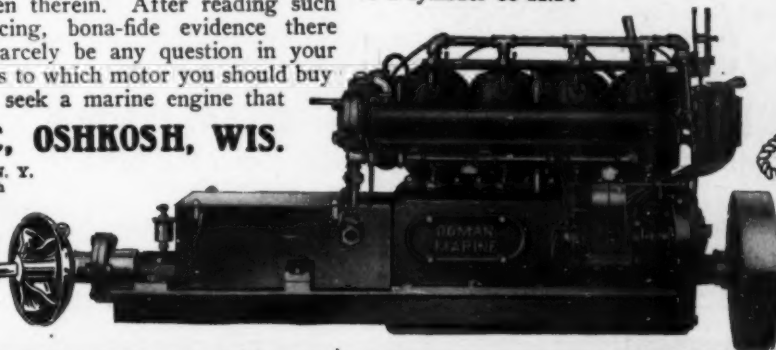
And, for further *proof*, read the Doman "Owner's Book," and be guided by the opinions of the hundreds of boat and engine authorities whose testimony is given therein. After reading such convincing, bona-fide evidence there can scarcely be any question in your mind as to which motor you should buy if you seek a marine engine that

can be absolutely relied upon under all conditions of sea and weather.

**MOTOR SHOWN AT RIGHT** is the Doman 4-cylinder 20-H.P. medium-duty motor. Cylinders are 5-inch bore, 6-inch stroke. Designed for all medium-duty and particularly for cruising boats up to 40 feet. Other Domans range from 2-cylinders 6-H.P. to 6-cylinder 60-H.P.

**H. C. DOMAN CO., Dept. C, OSHKOSH, WIS.**

Eastern Distributors—G. H. Scanlan, 137 Liberty St., New York, N. Y.  
Western Distributors—S. V. B. Miller, 72 Marion St., Seattle, Wash.  
Southern Distributor—Gibbs Gas Engine Co., Jacksonville, Fla.  
Canadian Distributor—Canadian-Fairbanks-Morse Co., Montreal,  
Toronto and St. Johns.  
CHICAGO OFFICE—1112 So. Mich. Ave., Chicago, Ill.



## Eldredge-Whitaker Hydroplane

A Superb Stock Model

25 Miles Per Hour Guaranteed

20-ft. 4 Passenger 30 H. P. Motor

Beautifully Finished in Mahogany



The Eldredge-Whitaker Hydroplane presents all the best ideas in up-to-date motor boat and hydroplane construction, developed to the point of greatest practicability for the average boat owner and enthusiast. Fast, comfortable, dry, seaworthy, easily controlled—it is equally valuable as a racer or speed boat, a family runabout or a yacht tender.

Last season a run of 56 miles was completed in 1 hour and 50 minutes—an average of better than 30 miles per hour. We mention this one performance simply because it is typical of the results which may be expected. During the season it encountered all sorts of seas and proved itself capable and safe under every condition. After a year of success this model has been perfected to be better than ever for 1913.

Priced at least 40% lower than a single boat would cost if built from the same plans, with the same quality of materials, workmanship, finish and equipment. Sold complete with 30 H.P. Featherweight Erd Motor and all equipment ready to drive. Also sold Knocked Down crated for foreign or domestic shipment.

Write today for price and full information.

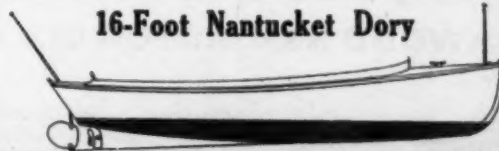
**ALBERT E. ELDRIDGE CORPORATION**

Fulton End Concourse

30-50 CHURCH STREET, NEW YORK

Distributors for Lamb, Fulton and Erd  
Featherweight Motors

### 16-Foot Nantucket Dory



The most seaworthy and most substantially built boat of its size in the world. The most Real Boat ever offered at the price. 3 1/2 H. P. Fulton motor. . . . . **\$250**  
Also sold Knocked Down



## Owners Are the Best Satisfied Motor Boat Owners

### Because

- First** They have clean, cool, noiseless engine rooms.
- Second** They have "that feeling of safety" in any kind of weather.
- Third** Their engine does not require attention more than once or twice a day, therefore giving a trip of pleasure.
- Fourth** RALACO Engines have given those who want to run their own boats, the chance to do so, without the necessity of being always in overalls.
- Fifth** RALACO Engines are easily understood, as simplicity is the chief feature of their design.

Before buying, it is your duty to investigate this wonderfully clean, noiseless, dependable engine.

Sizes from 10 to 75 H. P. for all the better class of cruising and working boats.

**THE S. M. JONES COMPANY**

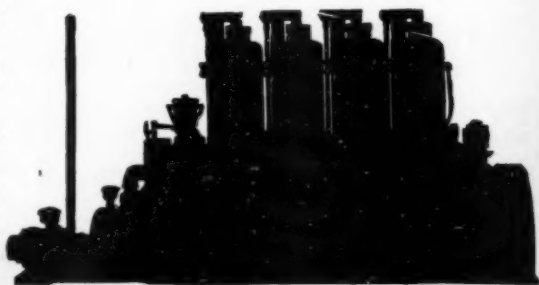
Main Office and Factory: 616 SEGUR AVE., TOLEDO, O.

New York Office, 136 Liberty Street.

AGENTS:

Olsen & Jarvis, The Bourse,  
Philadelphia, Pa.

A. W. LePage Gasoline Eng. & Supply Co.,  
Vancouver, B. C.



## L-A Motors Direct from Factory to You

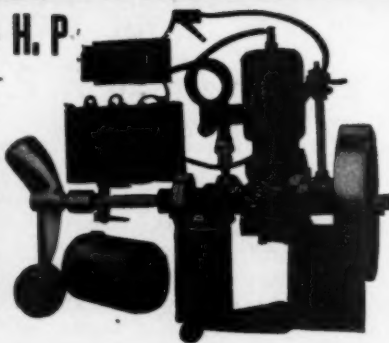
Sold on their Merits

**Complete 1½ H. P.**

as shown, including ignition system, shaft and propeller.

**\$36.25**

**Freight Paid**  
to any point east  
of the Rockies.  
West of Rockies,  
\$39.75.



Can you tell a good motor in a month's test? Why pay an agent to persuade you that his motor is the best?

Try a Lockwood Ash Motor on thirty days' free trial. Install it in your boat—try it under all conditions—THEN if you are not perfectly satisfied with it, send it back and get your money.

### Save A Season's Gasoline Cost

Lockwood Ash Motors are now sold direct to you. You save 33⅓% at the very least—enough to keep any of our highly efficient motors in gasoline for a whole season.

For every purpose, there's an L-A Motor—each built on honor, sold on its merits under a 30-day trial, and subject to a year's guarantee.

### YOU ARE FROM MISSOURI---We'll Show You

Our business depends upon our proving facts. The more you investigate

—the more you compare—the better for us. Just write on a post card "Show me." We'll put the evidence in your hands, including our beautiful new and complete 1913 catalog, giving all details and prices in plain figures. Write that card TODAY.

**LOCKWOOD ASH MOTOR CO., 202 Horton St., Jackson, Mich.**

## A 30 day Trial-A Years Guarantee

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.



## Model "Y" for Poor Gasoline

The grades of gasoline furnished for motor boats are getting poorer every month. Perhaps you have noticed your motor doesn't run as smoothly as it used to. Starts harder, misses more, runs unevenly, is more sensitive to climatic and weather conditions. Don't blame the motor. That's the fault of the gasoline—and the carburetor.

The new Model "Y" Kingston has been designed especially for the present low grade fuel. It gives you all the advantages of high grade gasoline *plus more power*, because it is well known that heavy gasoline contains more heat units per gallon than the higher test does.

The Model "Y" retains the two famous Kingston features—Single Adjustment and Floating Ball Air Valves—the features which have made it the King of marine carburetors. Four valves covered by bronze balls govern the supplemental air supply. The suction of the motor lifts these balls and makes them



HORIZONTAL TYPE

"float" admitting exactly the amount of air required, with mathematical precision. There are no springs or dash pots.

The Single Adjustment is to provide for varying the proportions of gasoline and air. This seldom requires attention, but can be adjusted instantly. It insures maximum efficiency always.

Write for Free Trial Offer and Guarantee

**BYRNE-KINGSTON & CO.**  
KOKOMO, INDIANA

New York Office, 1733 Broadway  
Seattle, 526 First Avenue, South

Chicago Office, 1430 Michigan Ave.  
Detroit Office, 650 Woodward Ave.  
Los Angeles, 804 So. Olive St.



PHANTOM VIEW

## Concentrate Your Purchases

with a modern, progressive supply house, centrally located, doing business with a big, clean stock in an up-to-date plant.

**GEO. B. CARPENTER & CO.**

430-440 WELLS ST., CHICAGO—"THE GREAT CENTRAL MARKET"

Manufacturers and Jobbers of  
Marine Supplies, Motor-Boat Fittings, Racing Sails, etc.

Send 20 cents in stamps to cover postage on our 500-page Marine Supply Catalog, to be refunded on your first order. If you already have the catalog, send for our

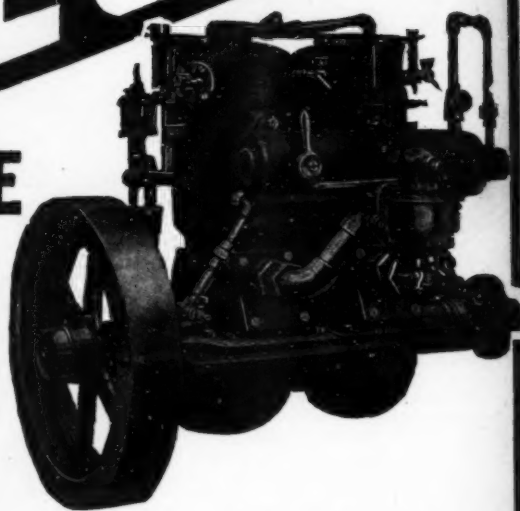
**1913 NET PRICE LIST**

Ready now—issued free—an innovation in the trade

When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.

# KENNEBEC

## GASOLINE ENGINES



If you are one who demands full service and reliability from a marine engine, you cannot be better satisfied than by getting a Kennebec. This is an engine which will give you perfect satisfaction for years to come. It will run day after day, year in and year out, with the greatest economy and the least trouble, and you can risk your life on it if necessary, because it won't fail you.

The Kennebec Engine gives thirty to forty per cent. more horse power than its rating. We allow them ample bore and stroke and rate them honestly at moderate speeds, because an engine designed for hard continuous service like the Kennebec must run at moderate speed if it is to have durability and give permanent satisfaction. We build power into these motors and it has got to come out.

The Kennebec is sturdy and reliable enough for the fisherman who must use it every day, and handsome enough for the finest pleasure boats. Every engine user wants Durability, Economy and Easy Accessibility no matter what type of service he requires. Ask any fisherman what he thinks of the Kennebec. If he has ever seen one working, we know what his answer will be.

14 MODELS. 2 to 16 H. P. 1 to 3 CYLINDERS. TWO CYCLE.

*Write today for Catalog*

**Torrey Roller Bushing Works, Bath, Maine, U. S. A.**



*Triplex Stern Light*

*Distributors for*  
**Kingston Specialties**  
**Connecticut Specialties**  
**Wheeler & Schebler**  
**Monarch Valve Co.**



*Hood Ventilators*



## Do You Wish To Save Money?

Compare these prices with what you would pay elsewhere and see what you will save by purchasing from us

Set of two galv. Fresnal Glass lights for Class 1.....	\$2.35
Set of four galv. Fresnal Glass lights for Class 2.....	4.15
Set of four galv. Fresnal Glass lights for Class 3.....	6.10
Schebler Carburetor, 1" size.....	7.50
Polished brass Check Valve, 1".....	.90
Finished brass 8" Bell.....	1.20
Polished brass Bilge Pumps.....	1.25
Polished tin Fog Horns, 30".....	.25
Polished brass Electric Horn.....	3.00
Polished brass Two-tone Horn.....	1.20
Life Preservers, government inspected.....	.90
Mica Jump Spark Plugs, each.....	.95
Jump Spark Coils, each.....	3.00
1" pol. brass Flush Flag Pole Sockets, per pair.....	.38
3 x 12" Canvas Fenders.....	.25
Automatic Boat Drainers.....	\$3.50
Pol. brass Bow Checks, per pair.....	.22
Pol. brass Stern Checks.....	.14
Power Bilge Pumps.....	3.00
Spark and Throttle Controls.....	1.10
1" Deck Plates.....	.16
1" Stuffing Box.....	.05
1" Stern Bearing.....	.60
Galv. Steering Wheel, 12".....	.85
Pol. brass Steering Wheel.....	1.15
Switches.....	.12
10" Stillson Wrenches.....	.50
Nickel plated Comb. Filers.....	.50
Reverse Gears.....	11.00
Magnetos.....	7.50

*Free for the Asking. Send for our highly illustrated catalogue*

**Universal Motor Boat Supply Co.**

Office: 287 Broadway, New York City

Warehouses: Atlantic Highlands, N. J.



*Triplex Combination Light*

*Agent for*  
**Wonder Mfg. Co.**  
**Russell Elec. Co.**  
**Pyke Automatic Boat Drainers**  
**Gies Gear Co.**



*Connecticut Plug Coils*





## THE NEW CARBURETION METHOD— MONDEX-HELIX

*Used In Combination With Any Carburetor*

### REDUCES GASOLINE BILLS 25% TO 40%!

Try it and be convinced! But beware of imitations! There is positively nothing like the Mondex-Helix for carbureting the air with liquid fuel and keeping the carbureting constant—thus increasing power and flexibility, with a minimum amount of fuel, almost doubling the efficiency of low-grade gasoline or kerosene, and at the same time insuring a steadier and smoother pull.

The Mondex-Helix is the only device of its kind that is scientifically perfect and automatic in its action, yet made without any revolving, moving or complicated

parts—requiring no attention whatever and which cannot get out of order. Also it is the only device of its kind that may be installed quickly and easily without cutting, piping, drilling or making any alterations in your boat.

Simply insert it in the intake of manifold like a cartridge in a gun—that's all!—and the Mondex-Helix will accomplish all and more than we claim for it.

It is an insurance against back-firing. It eliminates carbonization troubles, because every particle of live gas, in passing through the Mondex-Helix is so thoroughly disintegrated and mixed as to make perfect combustion an absolute certainty.

It allows quick starting. It makes a noisy or "knocking" motor silent and smooth. It reduces the tendency to over heating and prolongs the life of a motor to an almost indefinite extent.

Send for Booklet Z.

**THE ARISTOS CO., DEPT. "Z" 250-8 W. 54th Street, New York**

**The Mondex-Helix is  
used and indorsed  
everywhere  
where efficiency and economy find consideration**

When ordering, Address Dept. Z, giving make, model of engine or inside diameter of intake manifold. Sent with full instructions, C. O. D. or by mail on receipt of price.

Sizes, 1 inch to 1½ inches ..... **\$3**

Sizes, 1½ inches to 2 inches ..... **\$4**

Agents Wanted Everywhere

# \$45 Buys This 2 H.P. Guaranteed For Life AMERICAN Non-Cranking Engine

Think of it!

A complete marine engine, propeller shaft, propeller, stuffing box and all—an engine that never has to be cranked and is guaranteed for life—for only \$45.00.

"Impossible," you say. Maybe so, with other engine manufacturers. But with us it is true—absolutely. And we'll send the engine on 30 days' trial to prove it.

We positively offer you this high-grade 2 horse power engine at a price that no person wanting a motor of this size can afford to ignore. Many times this little engine has developed more power than other so-called 3 horse power engines. Many times it has lent a tow to boats with much bigger engines. Never has it had to ask for such assistance.

### Simple—Efficient—Reliable—Durable—Sold on 30 Days' Trial

There's nothing about this little American to get out of order. It has no gears—no Cams—no springs—nothing to give trouble. And it's so simple that any member of the family can run it. Always ready—always dependable. Uses gasoline or kerosene. And, remember, that every American engine goes out under 30 days' free trial and a life guarantee. We are never satisfied until you are.

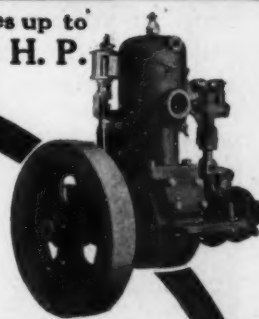
### Have Your Row Boat "AMERICANIZED"

The American is the easiest engine to install in a row boat ever built. It will drive any canoe or row boat through the water like an arrow. It can be run slow enough to troll. Needs no reversing gear—simply reverse the engine—you can do it without stopping. A better engine for the fishing, hunting, camping or Summer home boat cannot be found. SEND FOR THE PROOF. Get our catalog now. Shows our complete line of engines from 2 to 30 horsepower.

### Complete "American Special" Launch—Only \$125

Just the thing for fishing, hunting or Summer home. No vibration—no noise—no trouble. Will run in very shallow water. Seats 7 to 9 people. Driven by our standard 2 horsepower American engine described above. Send for literature.

**American Engine Company**  
468 Boston St., DETROIT, MICH.



**\$125  
Buys  
This 16-ft.  
Launch**



# THIRTY-EIGHT THOUSAND MILES

In Commission  
Three Years

## Speedway

Launch  
"Croton"



Designed and built for the Dept. of Water Supply, Gas and Electricity of New York City.



### "Speedway Gasoline Launches and Engines"

GAS ENGINE & POWER CO. and CHARLES L. SEABURY & CO., Consolidated  
Morris Heights New York City

Catalogue on request. Dept. A

# "MURDER!"

"Murder!" will be the cry of the future victims of the deep. For at last there is a life preserver on the market that will positively do its work under all conditions. *You* are responsible for the lives aboard your crafts.

Send in your order to-day for Smack's Human Life Preservers—then you will rest easier and we will rest easier. Remember! You can upset in a life boat, you can upset in a life belt, but you cannot upset in



Smack's Human Life Preserver!

Buoyancy is a fine thing when it's in the right place. On land it should be around the heart, in water it should be around the neck. Smack's Human Life Preservers are easily adjusted to any child or adult. Applied in less than ten seconds to any one, they fit right, they stay right. You will do right and wisely in placing your order to-day.

Literature will be mailed to you  
on request.

Price  
**\$2.00**  
each



Smack's Human Life Preserver

**HUMAN LIFE PRESERVER COMPANY, Long Branch, N. J.**





# Know Your Engine Speed

## The Hopkins Electric Tachometer

Indicates constantly the revolutions per minute of your engine shaft, thus enabling you to get the best results from your engine.

**Accurate — Durable — Reliable**

No flexible shaft to give trouble, the connection being an electric cable. Workmanship, material and accuracy guaranteed.

You realize the many advantages of knowing your exact engine speed, from which, after a few experiments, you can gauge fairly accurately the speed of your boat.

**THE ELECTRIC TACHOMETER CO.**  
1344 Spring Garden Street : : Philadelphia, Pa.



Write for  
Catalog

## Full Speed Ahead—The Waterman Wins on the Water

Now—NOW—It's time you had a Waterman Motor in that new boat. Get a power plant that's worthy of her. You'll be proud of a Waterman, whether she's a cruiser or canoe. We have them for every purpose—for heavy, hard work in rough open sea—for speed contests—for pleasure and for business. No matter what your needs, a Waterman is GUARANTEED to meet them.

### Here's 24 H. P. Developed Surely and Smoothly in 250 lbs.

The new 1913 model of the ever-dependable Waterman B-4, is a high-class four-cylinder engine with aluminum crank case, copper water jackets and all high-grade features. Pump and timer (and Bosch magneto if you desire) all driven by train of spur gears—not bevels. It's a cup winner in V-bottom boats and hydroplanes as well as in other types of speed and pleasure launches. Cylinders 4 x 4 in., developing 24 H.P. at 900 revolutions, and will run up to 1300. Weighs but 250 lbs. complete as shown. Our 1913 catalog tells all about this and others that have made the Waterman reputation.



### The Powerful PORTO—Makes ANY Boat a Motor Boat in a Jiffy



This famous midget gives you TWO FULL H. P.—at 27½ lbs. per H. P. for the complete outfit, propeller, rudder and all. Has 2¼ in. bore, 3 in. stroke. It's copper jacketed, has under-water exhaust, steers with tiller ropes and is built with the same care as the largest Waterman engines. Drives an 18 ft. rowboat 7 miles per hour, 4 hours on a gallon of gasoline. The most power for the price; the most power for the weight. It's been making good for seven years, and so we are glad to sell it on trial. Latest model shown in full in new catalog.

**FOUR BELLS**—Full speed ahead if you are going to get that new catalog in ample time. Write for it today. We'll mail it at once, postpaid. A post-card will do, but mail it TODAY.




## Waterman Marine Motor Co.

201 Mt. Elliott Avenue : : Detroit, Mich.

Export Office and Show Room, 47 Broadway, New York City.  
THE CANADIAN FAIRBANKS-MORSE CO., Ltd., Montreal, Quebec and Branches. Exclusive distributors for Canada of Outboard and Model K motors.

*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.*



**You Cannot Always Step Ashore**

When you are miles from shore and your motor boat catches fire, your one chance of safety lies in the prompt use of a

**Pyrene**  
Fire Extinguisher

*Approved by the United States Steamboat Inspection Service*

WRITE FOR ILLUSTRATED BOOKLET

**PYRENE MANUFACTURING COMPANY**  
1358 BROADWAY  
NEW YORK



## USE THIS BOAT WHILE YOU'RE PAYING FOR IT

THAT IS THE MEANING OF

**"Get This Boat for \$16.25"**  
**REITER 1913 BOATS**

### Our Binding Guarantee

**Y**OU cannot be dissatisfied with these boats—because you have a chance to get thoroughly acquainted with them before they are paid for. We would not be safe in selling anything but a first class product on these most unusual terms.



This is to certify that the Reiter's Boat shipped this day to ..... is warranted in every respect exactly as represented in our catalogue. We guarantee that this Boat has been carefully tested and adjusted according to instructions, that it will develop the full rated horsepower and more speed and power than is possible with any other type of motor. We guarantee this motor-boat to be made in a thoroughly workmanlike manner, to be perfect in material and construction, and any part proving defective within one year from date of sale and reported to the agent, will be replaced free of charge. The damages to which we are liable are limited to the replacement of the defective parts. Boats are liable to derangement from neglect or misuse. We do not guarantee against damages caused by abuse and neglect and ordinary wear. The motor is fully guaranteed.

The Reiter Models are the lowest price high grade motor-crafts on the market. These boats have the best material, workmanship, finish and equipment and are up-to-the-minute in design.

**S. J. REITER BOAT MANUFACTURING CO.,**

3033-3059 Monroe Street  
Toledo, Ohio



# The ROPER WHEEL

*How does this appeal to you as an intelligent motor boating enthusiast?*

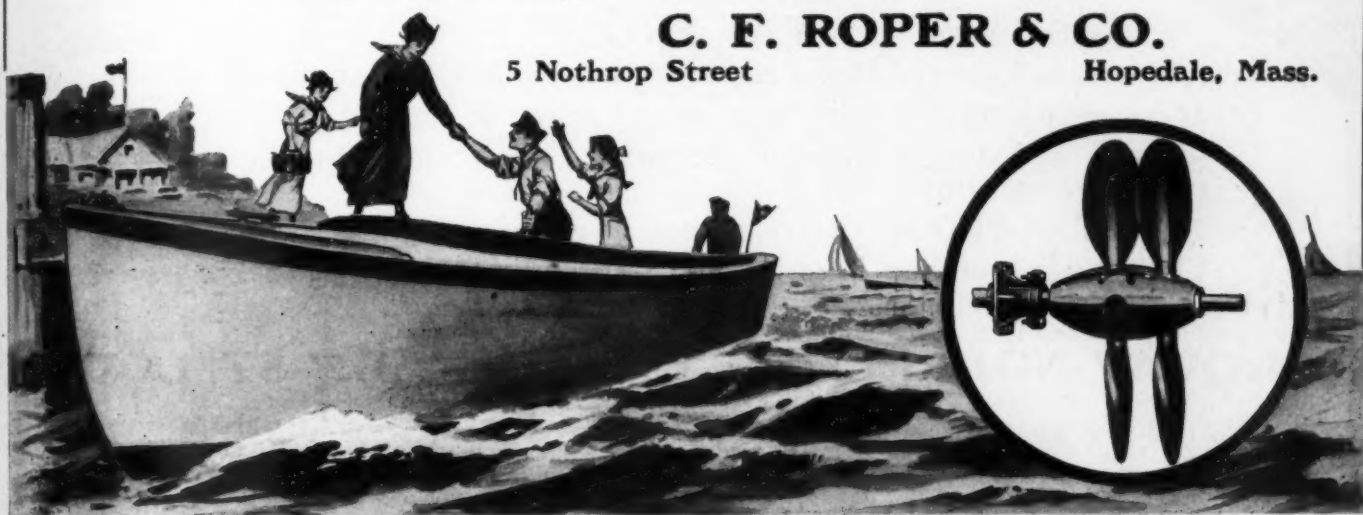
**W**HEN your boat is equipped with the Roper Wheel you can land or take aboard a passenger without so much as stopping or reversing your engine. You see the Roper gives you any speed, from absolute rest to full speed in either direction, quick as a flash by the operation of one controlling lever, *without in any way affecting the action or speed of the engine.* Minimizes two-cycle engine troubles when properly fitted.

*For sale by good dealers. Catalog of importance mailed free.*

**C. F. ROPER & CO.**

5 Nothrop Street

Hopedale, Mass.



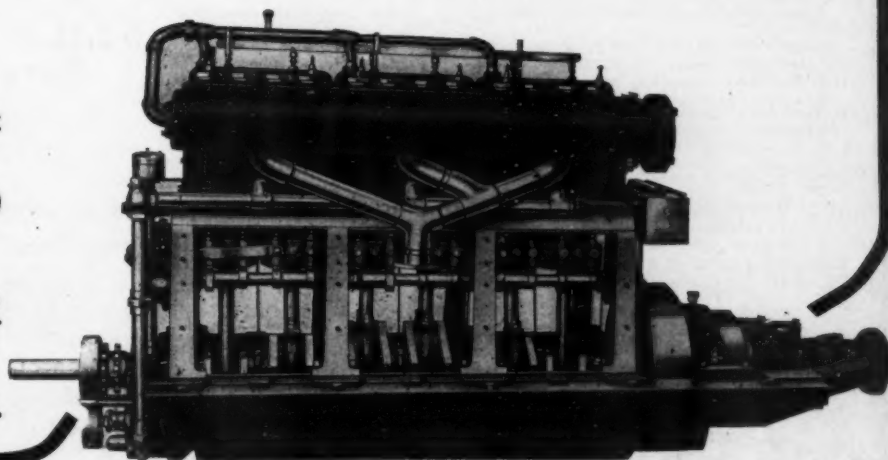
The engine that is used in these life boats is the best engine you can buy for your boat.

Long stroke—economy of operation. Every part accessible.

We guarantee every part for three years.

Sizes from 25 h. p. to 80 h. p. 4 and 6 cylinder.

The HOLMES MOTOR COMPANY, Inc.  
WEST MYSTIC, CONN.



*When writing to advertisers please mention MOTOR BOATING, the National Magazine of Motor Boating.*

# Make Your Motor A Better Motor



## PISTON HEAD PACKING RINGS

PATENTED

Install a set of "LEAK-PROOF" PISTON RINGS and get the Maximum Power of Motor and at the same time Maximum Fuel Economy.

Make every drop of gasoline develop and deliver to crank shaft its full energy.

Make each and every stroke of the piston show results. In other words, get all there is *in* your motor *out* of it.

The "LEAK-PROOF" RING is not an experiment.

The thousands of them in service have proven their efficiency and economy. "Ask the User." Write for booklet.

**McQUAY-NORRIS MFG. CO., Dept. "B," ST. LOUIS**

### BRANCHES AND MANAGERS

New York City—H. P. Marsh, 53 Lincoln Square Court, 64th St. and Broadway.

Chicago—H. G. Paro, Suite 39, Merchants' Bldg., 106 North La Salle St.

Pittsburgh—J. W. McKeen, 7620 Tioga St.

San Francisco—W. B. Godfrey, 268 Market St.

Kansas City—C. H. Eckhard, 3123 Michigan Ave.

Los Angeles—W. H. Steele, 822 Central Bldg., 6th and Main Sts.

Ft. Worth—E. S. Moberley, 108 Bryan Ave.

# THE MIGHTY MERCURY

This is the Motor that drove the 20 ft. hydroplane GUNFIRE Jr. through the following list of racing records for 1912.

May 30th—Atlantic Yacht Club, Seagate, N. Y., finished first, 25 miles.  
June 8th—Columbia Yacht Club, New York City, finished first, broke record for New York-Ardsley course, 30 nautical miles.  
July 4th—Red Bank, N. J., finished fourth, nine starters, struck submerged log, lost one propeller blade, 20 miles.  
July 23rd—Larchmont Yacht Club, Larchmont, L. I., finished first. Won 20-foot championship of Long Island Sound, 30 nautical miles, establishing a new record for this course.  
August 11th—Huntington Yacht Club, Huntington, L. I., finished first, 25 nautical miles.  
August 24th—Atlantic Yacht Club, Seagate, N. Y., finished first, displacement boat class, 15 miles.  
August 24th—Atlantic Yacht Club, finished first, Hydroplane class, 15 miles.  
August 24th—Seagate, N. Y., finished first in free-for-ALL race, 30 miles.  
N. B.—Three consecutive races same day. Three firsts, total mileage, 60.  
Sept. 17th, Sept. 18th, Sept. 21—Series race for Interstate Championship Trophy. Hudson River Carnival, New York City. Course 30 nautical miles, each day, Gunfire, Jr., second 25 points.  
N. B.—Winning boat protested, Gunfire Jr. may be awarded trophy.  
Sept. 21st—Columbia Yacht Club, New York City, finished first, New York-Ardsley course, 30 nautical miles.

Die cast bearings and every bearing surface is uniformly larger than the corresponding bearing of any other motor.  
2 3/4 valves, both inlet and exhaust. Capacious water jackets.  
Reverse gear bed cast integral with lower half of crank case. Paragon special reverse gear with positive reverse lever lock, eliminating ringing and rattling noises.

Positive lubrication to every friction point. Becker imported Hollow steel wrist pins.

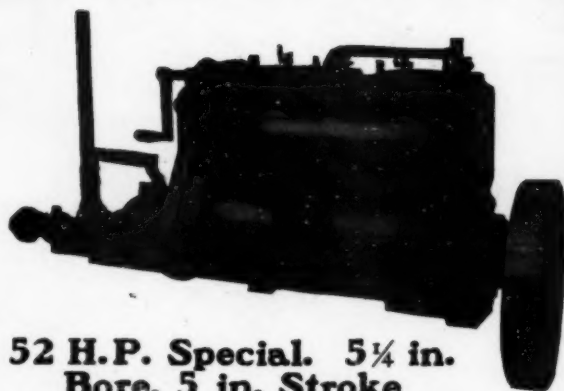
For racer, cruiser or working boat, the Mighty Mercury has no superior for power, flexibility and durability. None could be better designed, more carefully built or constructed of finer materials. Write today for the Mercury Book.

**TWO NEW MODELS. 6 1/2 in. BORE X 7 in. STROKE**

4 Cylinder—125 Horsepower

8 Cylinder—250 Horsepower

**MERCURY MOTOR CO. Produce Exchange, New York**



Flexibility and smoothness of operation are the qualities that most distinguish this exceptional motor.





ALL-IN-ONE  
\$5.00  
Weight 2 lbs.

# LOOK!

## DID YOU EVER HEAR OF Perflex Ignition?

### WATER-PROOF AND POWER-ADDING



PERFLEX SAFETY  
SWITCH  
Weight 1 lb.

GUARANTEED TO GIVE ABSOLUTE SATISFACTION OR PRICE IN CASH RETURNED TO YOU

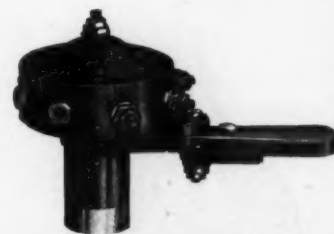
For Parcel Post Shipment Add to the Price the Amount of Postage from Boston Zone and 10c. Extra for Insurance.



MASTER VIBRATOR  
Weight 2 lbs.



IGNITOR  
Weight 2 lbs.



CURRENT ALTERNATING TIMER  
Weight 2 lbs.

Send for Catalogue No. 100-A

**ELECTRIC GOODS MFG. CO., Canton, Mass.**

# KNOX

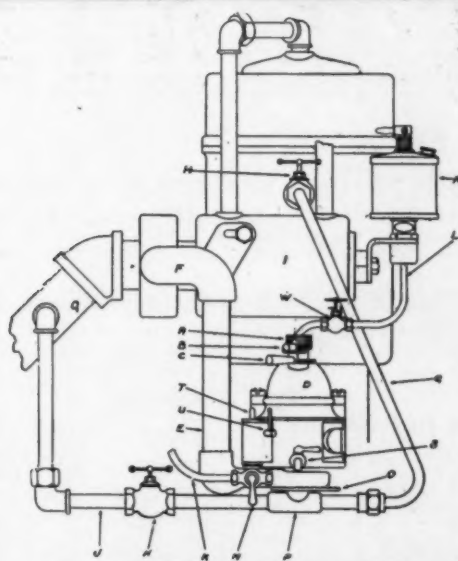
## KEROSENE- GASOLINE MOTOR

Our Knox Motors will operate successfully on kerosene.

This is no experiment with us. We have had it on the market for over three years. Look out for these untried devices and other make-shifts that are now being rushed onto the market. Read what one of our customers, operating a Knox Motor on kerosene in cold Newfoundland, has to say:

"I am mailing you igniter for 15-h.p. engine No. 3,125. Have been running the engine for two years now and guess it needs new points. Please refit them. The engine works o. k., but seems to smoke some around the exhaust. Please advise me how to overcome it. I burned last season 425 gallons of kerosene, 12 gallons of gasoline, and 6 gallons of cylinder oil. The gasoline was used only for starting. Return the igniters by mail as soon as possible."

We have hundreds of them doing the same.



- A FUEL INJECTION VALVE
- B AIR VALVE LEVER
- C TURBULENCE LAYER
- D CARBURETOR
- E HOT AIR TUBE
- F HEAT RESISTANCE
- G HEATING TUBE
- H RELIEF VALVE
- I EXHAUST ADJUSTOR
- J HEATING AND COOLING TUBE
- K HEATING AND COOLING TUBE
- L EXHAUST ADJUSTOR
- M HEATING AND COOLING TUBE
- N EXHAUST VALVE
- O COLD AIR VALVE
- P HEATING AND COOLING TUBE
- Q EXHAUST ADJUSTOR
- R EXHAUST ADJUSTOR
- S EXHAUST ADJUSTOR
- T EXHAUST ADJUSTOR
- U EXHAUST ADJUSTOR
- V EXHAUST ADJUSTOR
- W EXHAUST ADJUSTOR

The above line cut illustrates the Knox Motor with our Model "D" Kerosene Carburetor attached in connection with our 1913 Gasoline Starting Device. With this outfit our motors will start and operate without delay and superheating. We guarantee no carbon deposit and more power when operating on kerosene.

Our sizes range from 3 to 40 h.p., two and four cycle.

Our Model "D" Carburetor is the only device now on the market that properly and completely converts the fuel, kerosene, into a perfect hydrocarbon gas.

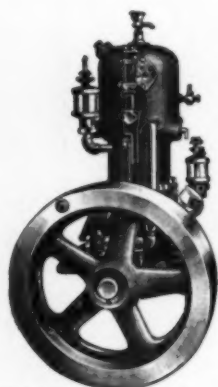
Send for 1913 catalog explaining all.

**CAMDEN ANCHOR-ROCKLAND MACHINE CO., Camden, Maine, U. S. A.**

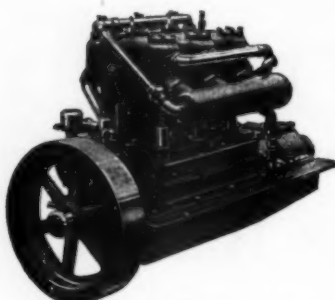
Boston, Mass., 180 State Street

SALESROOMS  
Seattle, Washington, 36 Coleman Dock  
Charleston, South Carolina, 99 East Bay Street

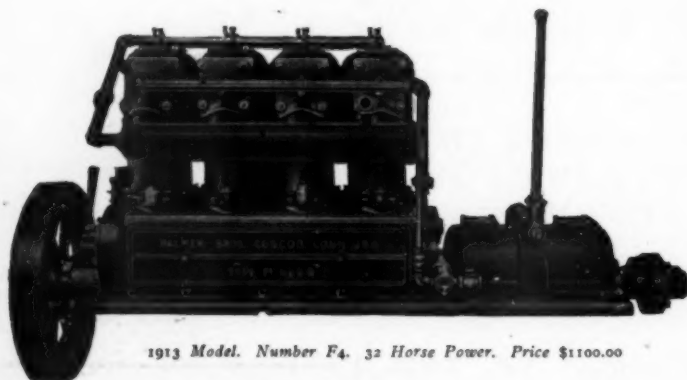
Portland, Maine, Merrill's Wharf



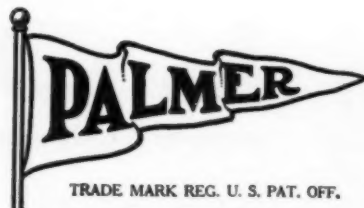
Model U1. 3 Horse Power.  
Price \$65.00.



1913 Model. Number NR3. 15 Horse  
Power. Price \$480.00.



1913 Model. Number F4. 32 Horse Power. Price \$1100.00



TRADE MARK REG. U. S. PAT. OFF.

Buy an engine with this trade-mark and you get utmost value for the money spent. This trade-mark goes on every engine we make as a personal pledge of honest materials, honest workmanship, honest rating.

Our lowest priced engine is designed, built and tested with the same painstaking care as the largest and most expensive model. Read that again—it is true.

Address Dept. M for our new catalog showing large line of two and four-cycle, 1 to 4 cylinders, 2 to 50 H.P. motors.

PALMER BROS.

Cos Cob, Conn.

Branch Offices

New York: 31 E. 21st St.  
Philadelphia: 54 No. 6th St.  
Boston: 77 Haverhill St.

Providence: 123 Dyer St.  
Portland, Me.: Portland Pier.  
Baltimore: 126 Market Place.

## Gallon Less Per Hour

Portland, Me., January 13, 1913.  
The Gray & Prior Machine Co., Portland Branch—Gentlemen: I used one of your Planhard Carburetors on the 20 H. P. model X, Hartford motor in my semi-speed boat, "Hartford III," during the season of 1912. My boat is well equipped to make tests, as I use a tachometer.  
I get better control with a Planhard, and use practically one gallon of gasoline less per hour than when I used one of the most popular carburetors in use to-day. I have put a Planhard on my automobile as well.

### 4300 Miles Without a Miss

Overbrook, Pa., Nov. 23, 1912—Gentlemen: I used a Planhard on my yacht "Dream" this Summer. I traveled over 4,300 miles, and never had a moment's trouble. I won the races to and from Bermuda. My engine behaved just the same as in ordinary cruising. I consider your carburetor the finest that I ever tried.

Very truly yours, C. L. LAGEN.

### "Best Carburetor on Market—Satisfactory Where Others Failed"

SMITH'S MACHINE SHOP, Auto and Marine Repairing, Atlantic City, N. J., March 10, 1913.

Dear Sirs:—I have installed several of your carburetors this winter, and consider them the best carburetor on the market, as they have proved perfectly satisfactory where other prominent makes failed to do the work. Enclosed find check.

Yours very truly, H. D. SMITH.

### Gives 3¼ More Miles to Fast Boat

A Planhard was put on the Frisbie motor in the 19-foot, 3,000-pound Delphia II, in place of a prominent make of carburetor. The Planhard increased her motor speed 230 R. P. M., and Delphia II's speed from 27 to 30¼ miles per hour.

### MUCH MORE POWER

Bath Marine Construction Co.—"The gasoline consumption at normal power was better than others, and it would develop much more power when pushed."

H. D. BACON, President.

### FIFTY MILES WITHOUT A MISS

"Fifty miles without a miss."—Geo. E. Grosvenor, Crescent, Mich.

"To use the vernacular, 'some carburetor.'"—W. R. Fleming, 3311 Broadway, N. Y.

### THE EMERSON ENGINE CO.

Alexandria, Va., Jan. 16, 1912.

Gentlemen.—After using such carburetors as the \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and many other makes for the last three years, and after testing innumerable makes that are commercially available, we have decided to adopt the "Planhard" as our regular carburetor equipment.

We congratulate you as makers, and ourselves for having found the "Planhard."

H. E. JENKINS, Vice-Pres. & Sec.

### OLD GLORY II

had a Planhard on her Loew-Victor on her famous 2,000-mile trip to Nova Scotia and back. Alfred S., never beaten, had a Planhard on her Metropolitan when she won the races: Cornfield Light, Rockland Light, Poughkeepsie, National Carnival and National Carnival Long Distance.

### VALIENT II

took all her prizes with a Planhard on her Metropolitan motors.

### EMERSON III

made a mile in 1 minute 8 seconds over the Washington Government course with Planhards.

"Has them all beaten to a frazzle."—A. G. Linden, Cleveland, Ohio.

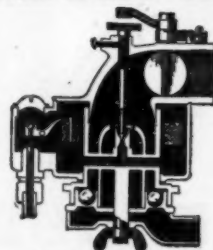
### "LOEW-VICTOR" ENGINES

Cleveland, Ohio, Sept. 5, 1912.

Gentlemen:—We will continue to use your carburetor for 1913. It has given us good service during the past year, as has been evidenced by the satisfaction of our customers.

THE LOEW MFG. CO.

## Get a Planhard and Save Gas



### Note Simplicity

Made for 2 and 4 cycle motors either low or high speed. The flexibility and control amaze new users. A motor builder says Planhards make new engines of old ones. Absolutely automatic. No working parts. No springs, levers or cams. Easily adjusted. Permanent adjustment. Gives increased power and speed with any gas in any weather.

### DISTRIBUTORS:

New England Distributors. Eisner-Lenk Co., 1074 Boylston St., Boston.  
Southern N. J. & Eastern Penn. Gustave Muller, Jr., Bourse Bldg., Philadelphia.  
Buffalo: Theo. P. Meinhard, 774 Main St.

Planhard Mfg. Co., 1788 Broadway, N. Y.  
Gentlemen:—Send me at once a copy of your chart and book concerning Planhard.

Name .....  
Address .....  
City ..... State .....  
My engine is ..... Carburetor size ..... in.  
(Flanged, threaded, horizontal or vertical.)



# Auto Craft

## POWER LAUNCHES

Write today for copy of 1913 Auto Craft Catalog illustrating and fully describing our entire line of stock models, including

18 ft. "Junior Special" with 3 H. P. Engine	\$135.00
18 ft. "Special" with 3 H.P. Engine	200.00
21½ ft. "Special" with 4 H.P. Engine and Gear	325.00
24 ft. "Special" with 5 H.P. Engine and Gear	450.00
28 ft. "Junior Runabout" with 8 H.P. Engine and Gear	500.00
35 ft. "Mahogany Runabout" with 11 H.P. Engine and Gear	775.00

Above models carried in stock for immediate delivery. We also build family launches, commercial boats, runabouts, cruisers, canoes, rowboats to order.

**The Cleveland Auto Boat Mfg. Co.**

Dealers in all Large Cities.

1037 River Avenue, N. W., Cleveland, Ohio



## Don't Gamble With Your Lubrication

Detroit Mechanical Force Feed Oilers cut out all the guess-work and uncertainty of gas engine lubrication—nothing is left to chance.

You don't have to watch your lubrication constantly for fear that something may go wrong and your engine be ruined. The Detroit Force Feed Oilier takes care of every detail of the engine's lubrication and does it better than a person could because it is an automatic machine.

### A Detroit Oilier is Insurance

Detroit Oiliers are made in styles and sizes for every kind of gas engine—marine, stationary, automobile, truck, gas tractor—with pulley, ratchet, gear or sprocket drive for easy installation on any engine.



Write today for Catalog P-64 and full information, stating what kind of engine you have.

On sale in Canada by the Canadian Fairbanks Morse Company.

**DETROIT LUBRICATOR COMPANY.**  
DETROIT, U. S. A.

Largest Manufacturers of Lubricating Devices in the World

## Baldrige Reverse Gear

**You Get in This Gear All That  
Safe Motor Boating Demands**

You won't have bearing troubles in mid-stream or in a tight place for the unbroken main shaft keeps every moving part in perfect alignment *always*.

The clutch won't jam or refuse to hold no matter how quick you reverse, for in the design we have guarded against every possible emergency.

Your clothes can't catch in the "Baldrige," and it won't sling oil for it is fully enclosed.

If you want more reasons in detail we will gladly send you the Baldrige Book.

If you are in the boat business, write for dealer's proposition.

"The gear with the unbroken mainshaft"

**The Baldrige Gear Company**

678 West Grand Blvd.  
Detroit, Mich.

Handled in Canada by  
The Canadian Fairbanks-Morse Co., Ltd.



## DONT BLAME YOUR MOTOR. GET A BRYANT & BERRY PROPELLER SPEED GUARANTEED

We  
Guarantee

1 to  
3 Miles  
Per Hour



### To Increase the Speed of Your Boat

This is the guarantee we have been making for the past five years, the guarantee under which we have sold thousands of B. & B. propellers. This is your protection and insurance of satisfaction when you buy a B. & B. wheel. You don't have to depend on arguments or unfounded claims.

B. & B. propellers give you the highest degree of speed and power your boat and engine are capable of. Their efficiency is as near perfection as it is possible to attain. They reduce the percentage of slip and produce the maximum propelling force for the horsepower used.

The materials and workmanship used in B. & B. wheels are equal in superiority to the design. We use a special bronze as strong as steel. The accuracy and finish are beyond criticism. And in spite of all this, our prices are lower than for any other make of wheel.

When you buy a propeller, get a genuine B. & B.—don't accept a substitute or imitation. Look for the name "Bryant & Berry" stamped on the hub. Certain peculiarities of design make it impossible for copies of our wheels to equal the originals in efficiency.

**BRYANT & BERRY COMPANY**  
28 WEST ATWATER ST. DETROIT, MICH.  
Canadian Fairbanks-Morse Co., Canadian Sales Agents.



## MARINE ENGINES

- ON APPROVAL -

Strictly high grade engines with Planhard or Schebler carburetor, water and spark proof commutator, flange coupling, electric circuit breaker, patented gas tight bearings, bronze propellers, jump spark coil and complete equipment.

2 H.P., \$50; 7 H.P., \$100;  
4 H.P., \$75; 10 H.P., \$150;  
18 H.P., \$250.

Northwestern Motors are sent on approval to be tried for thirty days in your own boat. If not entirely satisfactory, to be returned. Our business is run on the "Satisfaction or No Sale" principle. Large colored pictures of the Engines, together with magnificent Marine Engine Catalog now ready for distribution. Write for catalog.

### Truck and Hand-Car Engines

Our "Casey Jones" Engine makes a motor truck out of your push cart or a motor car out of your old hand car.

4 H.P. \$85  
Complete



For railway, hand-cars, factory trucks, lumber carts, mining cars, etc. Sliding base belt tightener starts slowly, not with sudden jerk. Reversible, runs either way. Splendid also for electric light outfits, moving picture machines, spray pumps, etc. Get prices and catalog of this line also.

**NORTHWESTERN MOTOR CO.**  
758 Spring St., Eau Claire, Wis.

30 Days'  
Free  
Trial



## IF YOU REALLY

desire to get more power out of your engines equip them with Monarch Auxiliary Air Valves and Monarch Special Carbureters. A Monarch Pump Suction Connection and Strainer may save your engine or boat.



Monarch Pump Suction Connection with Strainer.



Monarch Standard Carburetor Type H 1911 Model. Side outlet. (Patent Pending)



Monarch Auxiliary Air Valve. Will increase the power of your two-cycle engine.



Monarch Stuffing Box. Note the loose-packing Gland.

Monarch Goods are Guaranteed not for 30 days, but until they are worn out. Unless Vertical Carbureters are specified, all Carbureters are shipped Horizontal Pattern. Other Specialties offered from time to time. Full information for the asking.

**MONARCH VALVE CO., 112 Front St., Brooklyn, N.Y., U.S.A.**

Member { National Association of Boat and Engine Builders  
Marine Supplies Association of America

## Make Every Trip a Safe Trip

Many fatalities on water have been caused by an engine failing to work at a crucial moment

Most engine troubles are due to poor cable which causes short circuiting and results in loss of engine power.

Poor cable cracks when bent, causing much trouble. Be on the safe side and always get Packard cable—the cable with brown covering, striped with red

**Packard**  
CABLE

NEVER FAILS YOU

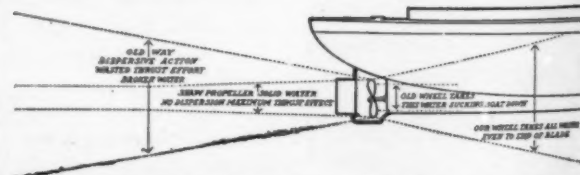
Packard cable is treated with a series of enamels that resist oil, water, dirt and heat. It lasts for years and saves frequent re-wiring at additional cost. If your dealer doesn't handle Packard cable, write us, giving his name. Don't let him sell you some other kind by representing that it is just as good

**The Packard Electric Company**  
Warren, - Ohio  
Dept.



## The "SHAW" Propeller Patented

**GUARANTEES**  
Greater Efficiency and Gives  
More Speed Than  
Any Other Make.



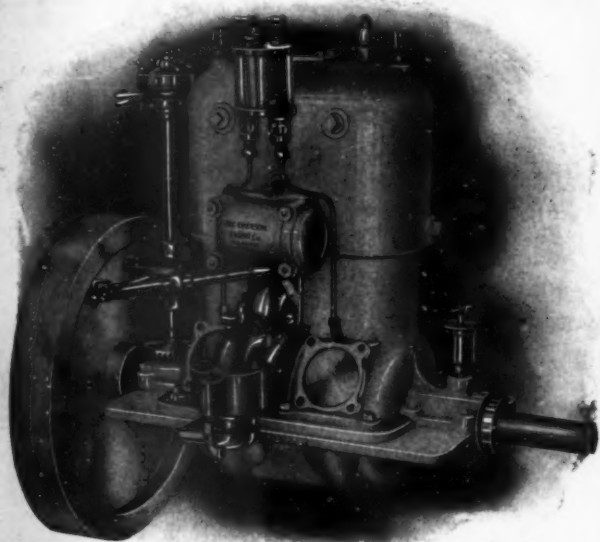
is designed to secure the maximum thrust returns from every square inch of its surface—AND DOES SO. Eliminates objectionable over-squatting of the boat's stern, and minimizes vibration.

MADE OF THE FINEST MANGANESE BRONZE PROCURABLE

Prices and further particulars

**SHAW PROPELLER CO.,** Board of Trade Bldg.  
BOSTON, MASS.





**\$200**

**1913 MODEL**

**20 H. P.**

Embodying every improvement known in Engine Building and having the Fit and Finish that has made the Emerson Engine famous.

Write for Catalog B and List of Satisfied Users

**EMERSON ENGINE CO.**  
Alexandria, Va.

Catalog "S" for Speed. Catalog "C" for Cruisers

**LUBROLEINE**  
OILS and GREASES  
"MAKE MOTORS MAKE GOOD"

These Oils and Greases are made from the best grade of Pennsylvania Crude, and for lubricating efficiency and freedom from carbon trouble are unsurpassed.

Lubroleine Oils are made in five grades: Crystal, Special Light, Light, Medium and Heavy.

The Greases are:

LUBROLEINE Fibrous Gear Case Lubricant

LUBROLEINE Cup Grease

LUBROLEINE Graphite Grease

Write for Descriptive Booklet, "The Mission of Lubroleine"

**Fiske Brothers Refining Company**

ESTABLISHED 1870

Head Offices:

Pittsburgh

Battery Park Bldg, New York

Newark

DISTRIBUTORS:

For Pacific Coast:

Waterhouse & Lester Co.

San Francisco,

Oakland, Sacramento, Los Angeles,

San Jose.

For Province of Quebec:

Legare Gadbois Automobile, Ltd.,

Montreal.

P. T. Legare, Ltd., Quebec.

For New York City:

Mutual Auto Accessories Co.

1937 Broadway.

## MULLINS STEEL BOATS CAN'T SINK

Built like Government Torpedo Boats, of tough, puncture-proof galvanized steel plates, pressed to rigid form and so securely joined together that a leak is impossible. The Mullins Steel Boats are *guaranteed* against puncture—leaking—water-logging—warping—drying out—opening seams—and NEVER REQUIRE CALKING.



**MOTORS:** The Loew-Victor 4-Cycle and Ferro 2-Cycle. Light—powerful—simple—can be operated by the beginner—start like automobile motors—one man control—never stall at any speed—exhaust silently under water.

Our beautiful book, illustrated in colors, is free.



Famous Yale and Harvard Model Canoes.

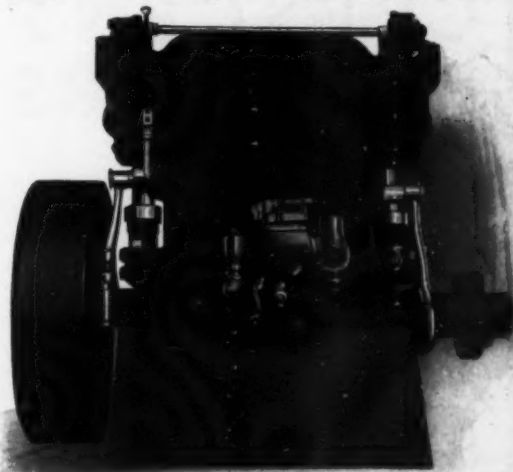
**THE W. H. MULLINS CO.**

World's Largest Boat Builders  
182 Franklin Street, Salem, Ohio

STEEL ROW BOATS AND CEDAR CANOES

## FULTON SELF-SPARKING ENGINES

Lubricate with Oil in Gasoline. Non-Back Firing.  
No Coil. No Battery. Operate on Kerosene.



3 1/2 to 18 H. P.

The Fulton self-sparking is the only two-cycle engine endorsed by such high-grade boat builders as

**LAWLEY, MATTHEWS**

Think what this means to you in selecting your own engine for your new boat. To follow their judgment insures you against trouble of any kind.

**FULTON MFG. CO., - Erie, Pa.**

Albert E. Eldredge, 30 Church Street, New York.  
Kershaw-Williams Company, 95 Haverhill Street, Boston, Mass.  
Olson & Jarvis, Bourne Building, Philadelphia, Pa.  
Allan W. Fulton, 514 East Pratt Street, Baltimore, Md.  
W. H. Pieper, 36 E. Bay Street, Charleston, S. C.  
Gibbs Gas Engine Company, Jacksonville, Fla.

# CAMPBELL MOTORS QUALITY-SERVICE

The Campbell is a quality motor, built for the man who is willing to pay the price of service. Experienced boatmen know that in buying a motor they get just about what they pay for—and usually the more they pay, the greater value they get for every dollar invested.

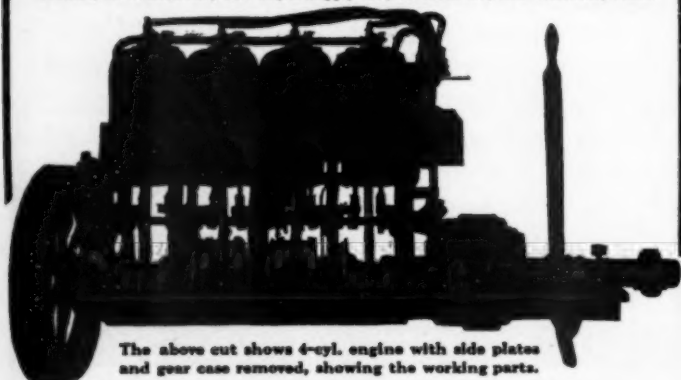
If you want a motor that will give you perfect service for the greatest length of time, without trouble, delay or extra expense, you want a Campbell motor. 1 to 6 cylinders, 5 to 100 h. p. Four cycle type, perfected to the highest degree known today.

"Buy a Campbell and keep going." Write for catalog

**CAMPBELL MOTOR CO., 706 Lake St., Wayzata, Minn.**

## DISTRIBUTORS

New York: Bruno, Kimball & Co. Boston: Gray, Aldrich Co. Baltimore: Chas. F. Grief. Jacksonville, Fla.: Gibbs Gas Engine Co. Wilmington, Cal.: Joe Pelous Y. & L. Co. Astoria, Ore.: Wilson Brothers. Sydney, Australia: Eves & Crowle. Picton, N. Z.: E. R. Lane. Buenos Aires, S. A.: Pedro Storm & Co. New Orleans, La.: G. T. Patterson Co. Orange, Tex.: N. W. Payne. Vancouver, B. C.: A. W. LePage. Duluth, Minn.: F. H. Holmberg. Winnipeg, Man.: Robt. Ackland Co. Seattle, Wash.: Henry Hensel. St. Helena, Ore.: St. Helena Shipbldg. Co. Brahestad, Finland: Thorston Gronroos. Zarr, Dal-St. Helena Shipbldg. Co. Brahestad, Finland: Thorston Gronroos. Zarr, Dalmasia, Austria: L. Fabbroich. The Royal Supply Co., 15 Main St., San Francisco, Calif.



The above cut shows 4-cyl. engine with side plates and gear case removed, showing the working parts.

## CRESCENT PROPELLERS

are manufactured from a metal well suited for the purpose, by experts in the art of bronze casting, and in our own foundry. From the pattern to the finished product,

### — DURKEE — Crescent Propellers

receive careful supervision, so that we can guarantee them fully equal to any manufactured, in material, workmanship and efficiency. Perhaps we can sell you good propellers more cheaply than you can have them cast from your own patterns. It might surprise you, but would not surprise us. Let us quote you.

**CHAS. D. DURKEE & CO.**  
2 and 3 South Street NEW YORK

## PLUG-COIL

(New 1913 Type)

**Waterproof**

**Shockproof**

Leading engine manufacturers recommend the "Connecticut." They know that moisture or spray will not affect its sparking ability—that its construction and simplicity of wiring means low battery consumption and freedom from leakage.

## Makes Boating A Pleasure

Connecticut Plug Coil has only two primary wires. All the secondary current is delivered direct to plug points. All parts of coil and plug readily accessible and interchangeable. Vibrator is housed under removable waterproof gun-metal finished brass cover.

With Switch	Without Switch
\$5.50	\$5.00

Giant Type (Extra Powerful)

With Switch	Without Switch
\$8.00	\$7.50

Write Today for Bulletin 37M

**Connecticut Company, Inc.**  
Meriden, Conn.



## MOTOR BOAT EQUIPMENT

OUR NEW CATALOG is the Best and Biggest we have ever issued. Prices always the lowest for Standard Goods.

## Hopkins

119 Chambers St., New York.

WE MAKE TO ORDER

New Boat Cushions, Sails, Flags, Spray Hoods, Boat Covers, and Folding Motor Boat Tops.

Get our estimates. Prices always right.

### Hopkins LIFE PRESERVER CUSHION

For Yachting, Motor Boating or Canoeing, Hopkins Life-Preserver Cushion is an absolute necessity. It is comfortable and ornamental, covered with durable, artificial Spanish leather, filled with non-absorbent Japanese Kapoc, impervious to water, with four times the buoyancy of cork.

Delivered anywhere in U. S. \$1.25

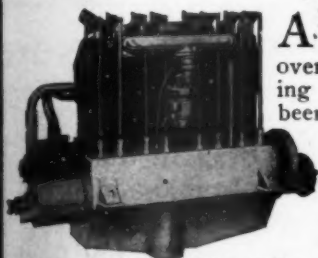
Send for samples of styles and coloring.

**SPECIAL**—These cushions also made up with your club flag or burgee embroidered thereon. Write for prices.





## Hydroplane and Hydro-Aeroplane Motors



Model A—4 cyl. 4½x5½", 40-50 h.p., 250 lbs.  
 Model B—4 cyl. 5½x5½", 60-70 h.p., 300 lbs.  
 Model C—6 cyl. 5½x5½", 70-80 h.p., 350 lbs.  
 Model D—6 cyl., 4 cycle, 90-100 h.p., 450 lbs.  
**SPECIAL MODELS:**  
 Model X—4 cyl. 6x6½", 100 h.p., r.p.m. 1200, 450 lbs.  
 Model Y—6 cyl. 6x6½", 150 h.p., r.p.m. 1200, 650 lbs.

**LIGHTNESS**—At least 25% less in weight than any other 4-cycle motor of same horsepower. Compact and very firmly built. No strength or wearing quality has been sacrificed in attaining this important feature.

**EVERY MAXIMOTOR IS GUARANTEED** as represented or we will gladly refund purchase price.

Handsomely illustrated catalog on request. A few responsible agents desired.

**MAXIMOTOR MAKERS** 1540 JEFFERSON AVENUE (E) DETROIT MICH.

**A**N absolute innovation in the construction of 4-cycle overhead-valve motors. Nothing like it has ever before been presented.

**HYDROPLANES AND HYDRO-AEROPLANES**—equipped with MAXIMOTORS are unquestionably the fastest craft that have been demonstrated.

**SPEED BOATS AND CRUISERS**—where reliability, efficiency and constant uniform power is essential become a "botherless and free from care" luxury with the installation of a MAXIMOTOR.

## Keep Your Boat in a SPRINGFIELD

### PORTABLE BOAT HOUSE

Inexpensive  
Weatherproof  
Well Designed  
Finely Built



This is the ideal solution for the question of how to house your boat. It has more exclusive advantages in its favor than any other method. You cannot find a better way.

The Springfield Boat House is built in any size you require. We have been constructing portable buildings of all kinds for years, so that we have this business down to a science. For quality of architecture, materials and workmanship no architect, builder or contractor could equal us at our prices. Specializing and quantity production have achieved wonderful results in our plant.

The portable feature is especially valuable for a boat house. You can take it down and move it wherever and as often as you like. Easily erected. As durable as any other well-built house. An ornament to any surroundings. Most thorough guarantee of satisfaction and durability ever written.

Our new Catalog "A" describes it completely, also Springfield Portable Summer Cottages, Garages and many other types of buildings. Write for it to-day.

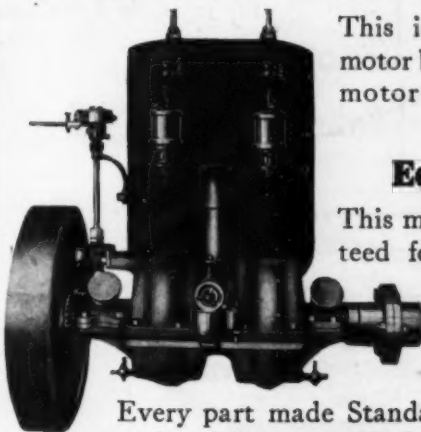
**SPRINGFIELD MFG. CO.**

1110 Allen Street Springfield, Mass.

New York Office: 39 Cortlandt Street

## ATTENTION!

### 2 Cylinder 10 to 12 H.P. Motor for \$130



This is not a cheap motor but a high grade motor sold cheaply.

#### Full Equipment

This motor is guaranteed for life. If any part is defective we will replace it free of charge.

Every part made Standard, and can be replaced by yourself, thus saving repair expenses entirely.

#### Greatest 1913 Motor Bargain

Agents Desired

Send for Catalog

Single cylinder motor, 1½ to 2 hp.....	\$37.00
Double cylinder motor, 3 to 4 hp.....	67.00
" " " 6 to 8 hp.....	110.00
" " " 8 to 10 hp.....	120.00
" " " 10 to 12 hp.....	130.00

#### CRAGG MOTOR MFG. CO.

605 Wayne County Bank Building

DETROIT, MICH.

## RESULTS COUNT

GET A

### Smith-Ryan Automatic Bailer FOR YOUR BOAT



Brooklyn, New York, March Third, 1913.

Smith-Ryan Boat Company,  
St. James Building, N. Y.

Gentlemen: I have used your Self-Bailer in the Baby Reliance racing boats, and have found it most efficient under all conditions.

Dict. HWW/F

Very truly yours,

J. STUART BLACKTON.

PRICE : : : : \$4.50

WRITE FOR CIRCULAR  
AGENTS WANTED

**SMITH-RYAN BOAT and ENGINE CO.**  
ALGONAC, MICH.



6 horsepower

**Two Cylinder**

Four cycle motors suitable for boats, from small tenders to cruisers. Used and recommended by boat builders and others who are interested both in saving on the purchase price and securing a first-class motor with best equipment.

The "Grimm Cub" for Small Boats

A Trade-mark to Remember



It Guarantees Results

Several new features; beside a money-back guarantee. Remy magneto completely wired, ready to run—force feed oil—every feature lends its share toward efficiency. The longer you use it the better friends you become.

Catalogue and information for the asking.

**Grimm Mfg. Co.**  
43 Keystone St., Buffalo, N.Y.

**Four Cylinder**



12-16 horsepower

A Popular Size for Semi-Speed Boats

## BUY A GILMORE

To the man that's building a boat—

To the man that spends hour after hour trying to make IT run; hours which if added together would make days and weeks all spent in worry and labor, **WE SAY BUY A GILMORE** and you will then know the **REAL ENJOYMENT AND PLEASURE OF BOATING.**

You absolutely take no chance. You can not possibly make a mistake because Gilmore Motors are embodied with all the essential things that go to make up real high grade motors.

They are built and tested as carefully as a watch.

They are very low in weight and extremely low in price.

They come to you fully equipped, it's not necessary to buy a lot of extras after paying for your Gilmore.

They are guaranteed for one year and **WE LIVE UP TO this GUARANTEE.**

1 1/4 horsepower 2 cycle motor fully equipped.

**\$35.00**

Weight 27 lbs.



Do not hesitate a minute, but get our 1913 catalogue, select the motor you desire and send in your order at once and you will be happy ever after.

This little 1 1/4-h.p. motor is a marvel of simplicity; starts, stops, reverses, runs equally as well in either direction; at high, medium or low speed, all controlled by one lever. Designed for Dinghys, fishing boats, row boats and canoes.

We build two cycle auto marine motors, 1 to 4 cylinders, 1 1/4 horsepower to 8 horsepower from \$35.00 to \$125.00.

Four cycle motors, 1 to 8 cylinders, 5 to 50 horsepower, from \$110.00 to \$850.00.

Reliable agents wanted everywhere.

**Gilmore Motor Mfg. Co., 354 Green Avenue, Detroit, Mich.**  
E. J. Willis, 46 Chambers St., New York City, Agents.

"Real satisfaction for every dollar you spend"

America's Standard

12 H. P.

**MARINE MOTOR**

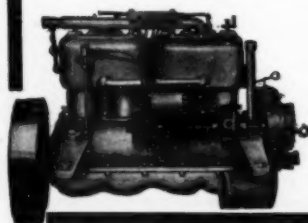
4 Cycle — 4 Cylinder

**KERMATH**

**I**F MONEY could buy better designing, better material, or finer workmanship, Kermath Marine Motors would have them.

Responsible dealers will find our exclusive agency contract for the sale of this product in their territory will be a valuable addition to their business. Catalogue and discounts to agents and boat builders on application.

Price \$150 to \$200, depending on equipment



**Kermath Manufacturing Co.**

DETROIT, MICH.

45, 47, 49 E. Fort Street

## Sell Your Motor Boat or Motor in The Market Place

When a man is looking for a certain article he naturally refers to the place where he will be most likely to find what he wants. Thousands of readers know of the bargains that are always listed in the **MoToR BoatinG Market Place**, so they look here first.

Successful advertisers follow the same course as those who are looking for something—they place their advertisements where they are most likely to be seen by prospective buyers.

**MoToR BoatinG** has a guaranteed circulation in excess of 25,000 copies per issue, and every copy is seen by several persons. In this way practically every motor boat enthusiast in the country is reached, as well as the principal foreign markets. In this great audience there are sure to be several prospective customers for every article you want to sell.

*We will write your advertisement if you will send full information and tell the amount of space you wish used.*

*Enclose remittance to cover size of advertisement you want, figuring at the rate of 3 cents per word, each insertion.*

**MAIL YOUR ADVERTISEMENT TODAY**

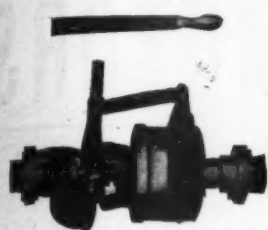
**MoToR BOATING**

J. S. HILDRETH, Adv. Mgr.

381 Fourth Ave.

New York





## MICHIGAN GEAR

### Motor Boat Owners

Order your accessories at the same time you order your boat and engine, and specify the MICHIGAN.

You want the best equipment, and that's the MICHIGAN. Every engine and boat builder will be glad to supply you with the Famous Michigan Reverse Gears, Propeller Wheels, Steering Wheels, Underwater Exhausts, Bilge Bailer, Universal Joints, or a hundred and one up-to-date articles for motor boats.

**Michigan Wheel Company's**  
1115 Monroe Avenue, Grand Rapids, Mich.

EASTERN BRANCH  
88 Cortlandt Street New York City

Remember the name MICHIGAN

Specify  
the  
Michigan  
  
Send  
for  
Catalog

**MICHIGAN  
WHEEL**



# VISO

## SPARK PLUG

on your motor is a beacon light telling you either night or day your ignition trouble.

To get the highest efficiency use "VISO" plugs.

Write for pamphlet telling you the superiority of "Viso" over other kinds.

If your dealer has not laid in a supply we will send plugs on receipt of \$1.00 each.



**The Toledo Spark Plug Mfg. Co.**  
TOLEDO, OHIO



Actual Size

Convenient  
Handle  
Attached

## How To Remedy Ignition Troubles!

Frequently, "Jumpy," irregular running of your engine is due to corrosion of the contact points.

### NICHOLSON "Coil" Files

are specially designed for cleaning and brightening the contact points of spark plugs, coils and vibrators.

Your tool-kit is not complete without a NICHOLSON "Coil" File.

To introduce these files we will send postpaid to any part of the United States one dozen for one dollar and a half

Nicholson quality is again reflected in our new Catalog, which shows 600 illustrations of files made from actual photographs. Nothing like it has ever been issued before. Invaluable to buyers and users of files. Sent FREE on request.

**NICHOLSON FILE CO.**  
PROVIDENCE, R. I.

## TRIMOUNT



### Rotary Power Whistle Outfit

This is a high-grade power signal that will give you service and satisfaction for a life time.

It is the most practical boat or yacht signal made. Made entirely of bronze. Three sizes.

The signal is blown by compressed air furnished direct from a Rotary Blower. This blower is driven by friction contact with the engine flywheel. The whistle may be placed on the blower, as shown, or installed anywhere in the boat and connected by rubber hose.

With each signal outfit we give a handsome nickel-plated whistle, and extra brass whistle and copper fog horn. This gives the right signal for every occasion.

### Trimount Rotary Hand Bilge Pump

This hand Bilge Pump works so fast and so easily that it is really unnecessary to have a power bilge pump on any size of pleasure or work boat. The smallest size pumps 6 gals., at 85 R. P. M.; the medium size, 10 gals. a minute, and the large size, 20 gals., at the same speed. Small, compact, durable, and never in the way.

Write us today for prices.

Shipped direct where we have no dealer.

N. Y. Office: 303E Hudson Terminal Bldg.  
PAUL D. LE VENESE, Mgr.



**TRIMOUNT ROTARY POWER CO.** 152 PEARL ST., BOSTON, MASS.

## VAN BLERCK MOTORS



**T**HIS cut shows the "BABY RELIANCE III" establishing the world's speed record, 53.7 miles per hour. In this event the "Baby Reliance III" was powered with a VAN BLERCK motor.

We are constantly receiving unsolicited testimonials as to the reliability and smooth-running qualities of our medium-duty and high-speed motors.

These facts go to show that if you want more speed, more comfort, more genuine satisfaction and less trouble, less annoyance and less uncertainty than the other fellow you must specify VAN BLERCK.

*Catalog mailed free upon request*

**VAN BLERCK MOTOR CO.**  
139 Lieb Street Detroit, Michigan

### U. S. Representatives:

Gasolene Engine Equipment Co., New York City; Gas Power & Supply Co., Portland, Ore.; Gray-Aldrich Company, Boston; Marine Equipment & Supply Co., Philadelphia; Allan W. Fulton & Co., Baltimore; Motor Boat & Auto Supply Co., Cincinnati; L. L. Tripp, Water-

vliet, N. Y.; Ramaley Boat Co., Minneapolis (Wayzata P. O.); Kelley Hardware Co., Duluth; J. Conrad Hahn, Pittsburgh (Wilkesburg P. O.); Marine Supply Co., Mobile, Ala.; J. A. Morris, Quincy, Ill.; Wm. A. Dunham, Pensacola, Fla.; A. T. Ross, Palm Beach, Fla.

## RELIANCE MOTORS

**NEW** 3 Cyl'der, Valveless, 2 Cycle,  
15 Horse Power  
5 1/4 in. Bore 5 in. Stroke

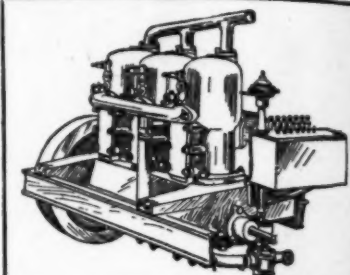
Regular Price of these Motors is - - \$350.

**OUR PRICE**

**\$95.**

Duplicate parts can be obtained at any time

Why spend money in repairing an old motor when for about the same sum you can



### EQUIP YOUR POWER BOAT

WITH A MODERN SUPERIOR NEW MOTOR COM-  
PLETE WITH TRIMMING, OILER, ETC. FOR ABOUT  
WHAT A GOOD REPAIR JOB WOULD COST.

We are able to sell these motors at one-fourth of their real value, as a result of factory clean-up.

We also have other two and four-cycle motors which can be used in boats, as stationary engines, or for any purpose suited to gas engines.

**All at Extremely Low Prices**

## TIMES SQUARE AUTO CO.

Largest Dealers in the World, Factory Jobs, Accessories and Automobiles.

1743 BROADWAY 1210-1212 MICHIGAN AVE.  
NEW YORK CITY AT 56th ST. CHICAGO

## VIPER

Trade Mark registered in U. S. Patent Office.

### Viper IV Type

The first shoal draught speed boat. Entirely weedless. Surface propellers and side-plate rudders. Hickman patents. Half the draught of the screw-propeller. Speed unaffected by heavy weed growths.

No stern wheel. No tunnel stern. No screw propellers. No shaft under water. No strut. No non-lubricated outboard bearing. No projecting rudder. No rudder-stock, brackets, quadrant, tiller rope or pulleys. No torque.



VIPER IV

### Viper III Type Low-power Viper

The fastest hull for low and moderate powers yet devised. Built under the supervision of the designers. We are sending these boats to all parts of the world.

Write for free Viper treatise and illustrated description of surface propeller boats.

**The Viper Co., Ltd.,** Platon, Nova Scotia, Canada

## Electric Lights for your Boat



**U-S-L**  
THE UNITED STATES LIGHT AND HEATING CO.  
**STORAGE BATTERY**

Motor-Boat Electric Lighting is such a simple, economical, and reliable proposition with a U-S-L Lighting & Ignition Battery that no Motor-Boatist can afford to be without the many advantages of electric light.

Every season more motor boats take the water equipped with U-S-L Batteries than the season before. Next season thousands of these Batteries will be used.

Write to-day for full information about this rugged, compact, and highly efficient Battery. It's the one Battery that makes electric light easily possible on every boat.

**The U. S. Light & Heating Co.**  
General Offices: 30 Church St., New York

Branch Offices & Service Stations.  
New York, Cleveland, St. Louis, Boston, Detroit, San Francisco, Buffalo, Chicago.





### IMPROVED DECK LIGHT AND VENTILATOR

A combination that admits air and light into the engine room, or cabin, without the necessity of going on deck. Cannot be opened from the outside; when closed is flush with deck. No key required; two lugs on the underside; can be unscrewed at will.

Furnished in brass or galvanized iron hood ventilator, or separately without ventilator. Can be used as a port light, on side of hull or deck house.

Dealers have Improved Deck Light and Ventilator or can get it. Write us for full particulars.

**WILCOX, CRITTENDEN & CO., Inc.**  
MIDDLETOWN, CONN.

Established 1847



— fears them not because he *knows* that his gasolene supply, kept in this seamless, leakless, drawn steel, receptacle is fireproof. "Jasco tanks" are at once a safety assurance and an economic necessity to the motor boat owner.

The old-fashioned riveted or seamed tanks are bound, sooner or later, to become leaky. Then a match struck carelessly, a spark from pipe or cigarette, and fire or explosion with all their accompanying horrors are liable to occur. And even if this does not happen, think of the constant drain on your pocketbook that a leaky tank causes! Protect yourself NOW by installing a "Jasco tank" in your boat.



Made in all standard styles and sizes, or if your boat presents special requirements we can build a tank to exactly suit it at small additional cost. Write us.

You want our card showing U. S. Marine Signals. Sent free on request.

**JANNEY, STEINMETZ & COMPANY**

MAIN OFFICE:  
PHILADELPHIA, PA.

NEW YORK OFFICE:  
HUDSON TERMINAL BUILDING

**E. J. WILLIS CO.**  
86 Chambers Street NEW YORK

Greatest CUT RATE  
Marine Supply  
House in America

Now we have a Wireless Dept.

OUR \$20.00 OUTFIT  
Receiving and Sending  
Outfits for \$15.30 and up

Circular Upon Request.

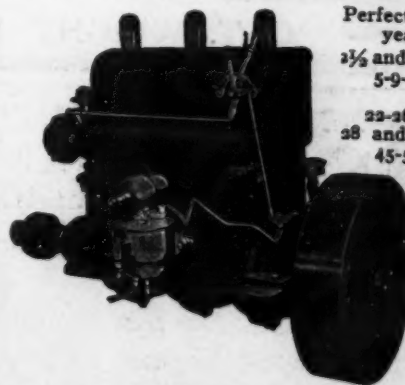
1913 Cut Rate Marine  
Catalogue "B" Sent Free

Why spend your money for a complicated motor, covered with valves and appliances  
When you can buy a simple, Few Part

## Lackawanna Valveless

that any intelligent child can run, — and whose quality and sterling worth appeal to both the expert and the novice?

"The Right Motor at the Right Price"



Perfected result of 15 years' experience.  
2½ and 4½ H.P. single Cyl.  
5-9-12-15 to 18 H.P. double Cyl.  
22-26 H.P. three Cyl.  
28 and 30 H.P. four Cyl.  
45-55 H.P. six Cyl.

Heavy Duty with-  
out Heavy Weight  
High Efficiency  
without High  
Speed

Our 1913 Catalogue (sent on request) tells all about it

**LACKAWANNA MFG. CO.**  
101 Chester St., Ballston Spa, N. Y.

Beach & Barnard, 126 Liberty Street  
Agents, New York City and Vicinity



## Makes night trips safe as day

Don't run the danger of disastrous accidents by buying an inferior searchlight. With

## *The Neverout* Searchlight

you can pick up buoys at a safe distance; make landings easily, etc.

We make searchlights for either acetylene gas or electricity. Write for literature giving full descriptions.

Rose Mfg. Co.

937 Arch Street, Philadelphia, Pa., U. S. A.

## THE "EATON" SILENCER "EATS NOISE"

The "Eaton" Silencer was the first device on the market to perfectly combine the two essential features of a silencer. It gives *absolutely silent Exhaust with absolutely NO BACK PRESSURE.*

No other device will give you such satisfactory results. If you have been getting along with any of the ordinary types of silencers or mufflers on your marine motor you do not know what a wonderful improvement in quietness, power and economy an "Eaton" would give you.

The internal design causes most of the exhaust gas to oscillate to right and left in passing the baffle plates. A smaller portion passes through the holes in the plates. These two movements interfere and destroy the velocity of the gas, thus perfect silence is obtained.

The Eaton Silencer is cast from Grey Iron and is substantial enough to withstand the hardest Salt Water Service. It can be used with or without water. Will outlast your motor. Workmanship fully guaranteed.

ALL SIZES FROM 1½ TO 2½ INCH EXHAUST.

Write today for prices.



EATON & WILSON 209 Bank St., New London, Conn. U.S.A.

## Only \$95.00 for this Complete 16 foot Launch

Only \$37.50

Complete

equipped with 2 H. P. engine and clutch, guaranteed self-starting Engine, weedless Wheel and Rudder. Result of 30 years' experience. Money back if not as represented.

### Engine Alone Only \$37.50 Complete With Clutch

All ready to install in your launch. Special terms for other sizes of Engines from 2 H. P. to 75 H. P. Illustrated literature giving full information, mailed free. Do not think of buying a Launch or Engine until you see our illustrations.

Be Sure and Write Today For Our Proposition and Full Description

C. T. WRIGHT ENGINE CO., 400 State Street, Greenville, Mich.



Just Like a 30-Footer Only Smaller

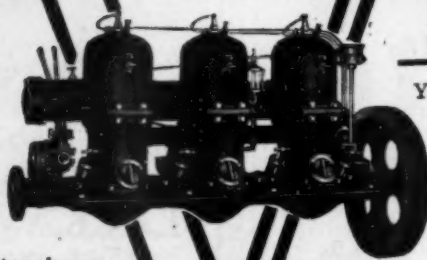
# VIM

5 to 55 h. p. 3 KINDS—  
SPEED—REGULAR—HEAVY DUTY

Strong, neat, simple—absolutely dependable. Give honest, enduring service—constant satisfaction. Win your enthusiastic confidence. Easily accessible—crank case conveniently opened from either side. Non-backfiring. Double ignition. Easy starting fly-wheel. Connections for rear starter. Equipment includes Paragon reverse gears. Mea Magnetos, Noxon distributor, heavy brass fittings and many other exclusive features.

VIM MOTOR COMPANY

The Boat  
Builders'  
"Stand-By"  
—The Boat  
Owners' Pride



# MOTORS

1, 2, 3 and 4 CYLINDER  
USE GASOLINE OR KEROSENE

Your boat, equipped with a VIM, will make your day or evening on the water—with the pure air, refreshing breeze—the lure of the great outdoors—one of exhilarating enjoyment and healthful recreation. Thousands in use, many of them eight or nine years old. The old boatman picks the VIM. Read twenty-seven reasons why in our new book, "Boating Facts."

Send for Your Copy Today

2805 Water St., SANDUSKY, OHIO,



# Headquarters For Canada

## For Marine Engines and Accessories

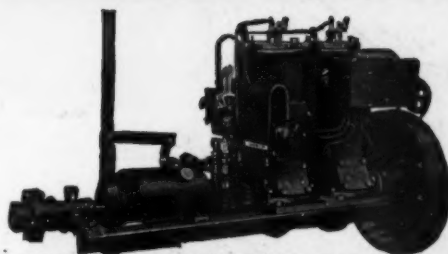
Have you a copy of our 1913 catalog of Marine Accessories? We carry the most complete line of motor boat supplies in Canada. All of our branches are well stocked.

We are distributors for Bosch Magneto, Wheeler and Schebler Carburetors, Paragon Reverse Gears, Jeffrey-Dewitt Plugs, Aplco Electric Outfits,

Baldrige Gears, New York Coils, Wolf's Head Oil, Hall-Gibson "Rochester" Steering Wheels, Bryant & Berry Propellers, Harthan Propellers, Yankee Mufflers, Detroit Lubricators, etc.

We also carry a complete stock of Marine Hardware and Fittings. Send for catalog.

**THE CANADIAN FAIRBANKS-MORSE CO., LIMITED**  
MONTREAL, ST. JOHN, OTTAWA, TORONTO, WINNIPEG,  
SASKATOON, CALGARY, VANCOUVER.



12 H.P. Fairbanks-Morse, Two-Cylinder, Type "Q" Two-Cycle Three-Port Marine Engine. Equipped with Bosch Magneto, Paragon Reverse Gear, and Helical Gears, making it a noiseless running engine.

Endorsed by the  
Foremost Design-  
ers and Builders

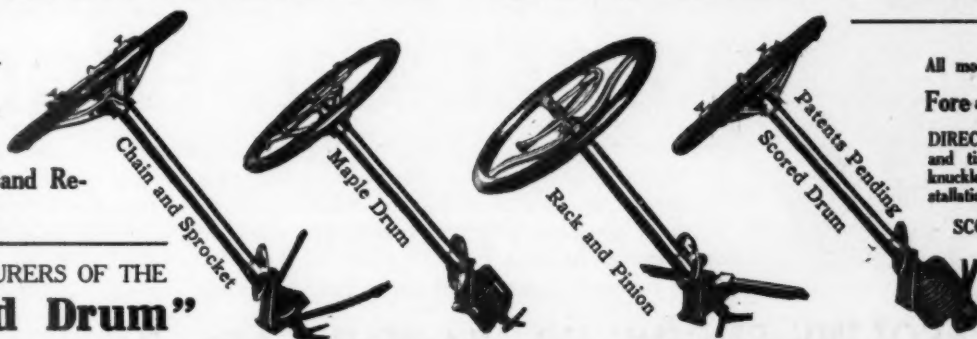
## RELIANCE-ROCHESTER

Marine  
Steering Gears

Vertical Cruiser  
Gears, Com-  
bined Steering and Re-  
verse Controls.

MANUFACTURERS OF THE  
"Scored Drum"

Write for  
Literature ]



**HALL-GIBSON CO.**

523 CORTLAND ST.  
ROCHESTER, N. Y.

All models can be equipped with  
Fore and Aft Engine Levers

DIRECT connection to carburetor  
and timer. No bell cranks or  
knuckle joints. Eliminates all in-  
stallation difficulties.

SCORED DRUM continuous  
tiller line requiring no  
pinning. ROPE guides  
insure the lines leading  
fair on the drum.

[CANADIAN FAIRBANKS-  
MORSE CO.  
Canadian Distributors



## Niagara Owners Know READ THIS

### HEADQUARTERS DEMOCRATIC COMMITTEE

Troy, N. Y., Mar. 11, 1913

Niagara Motor Boat Co., North Tonawanda, N. Y.

Dear Sirs:—I am in receipt of yours of the 1st inst., and in reply beg to say that it will be a pleasure for me to recommend your boats, should any customers seek information from me.

My boat has been a wonderful success, in fact it has given me greater satisfaction than I anticipated at the time of purchase. Do not hesitate to refer to me at any time.

With kind personal regards, believe me, Very truly yours,  
Dict. J. J. M. Signed. JOSEPH J. MURPHY.

SEND FOR PLANS

**NIAGARA MOTOR BOAT CO.**

210 Sweeny St. North Tonawanda, N. Y.

## LET US SHOW YOU THE 1913 DESIGNS

WRITE TODAY FOR

CATALOG No. 12 OF SEA-GOING CRUISERS, DAY CRUISERS, TUGS AND COMMERCIAL CRAFT.

CATALOG No. 11 OF FAMILY MOTOR BOATS, SPEED BOATS, SHALLOW DRAFT BOATS, RUNABOUTS, ETC.

CATALOG No. 10 OF ROW BOATS, CANOES, HUNTING BOATS, DINGHYS AND SMALL CRAFT.

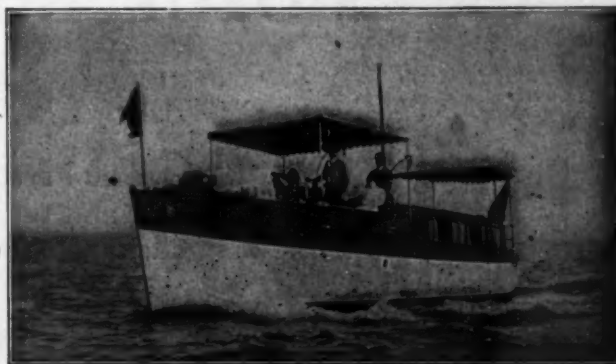
YEARS OF PRACTICAL EXPERIENCE IN BOAT BUILDING ENABLES US TO GIVE YOU THE VERY BEST IN WORKMANSHIP—MATERIAL and FINISH AT THE MINIMUM COST.

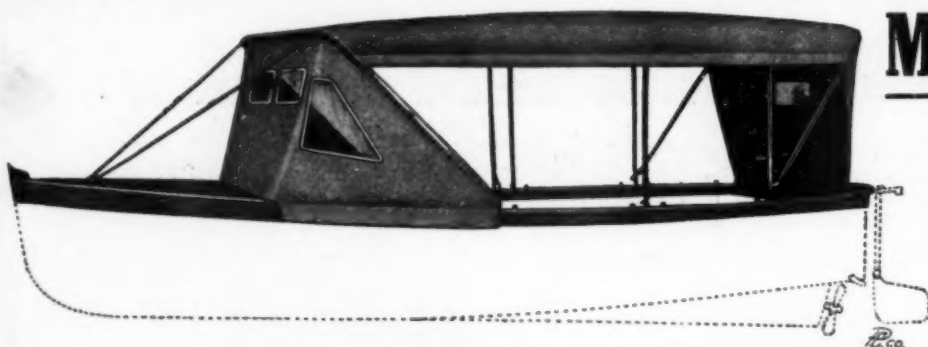
WATCH THE PERFORMANCE OF ANY RACINE, WISCONSIN, QUALITY—CRAFT. WRITE US TO-DAY.

**RACINE BOAT COMPANY**

CHICAGO SHOW-ROOM  
1808 MICHIGAN AVE.

1615 RACINE STREET  
RACINE, WISCONSIN, U. S. A.





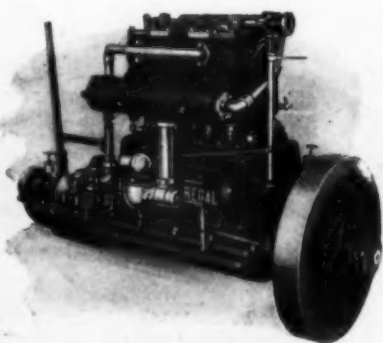
## Motor Boat Tops

SOMETHING new and classy. Different from the Tops usually found on the market in point of MATERIAL, STYLE and FINISH.

Send at once for our catalog of MOTOR BOAT TOPS, LIFE PRESERVER PILLOWS, CUSHIONS, etc.

Thirty-five years' experience in manufacturing High-Grade Tops and Cushions

**THE C. Z. KROH MFG. CO., Toledo, Ohio**



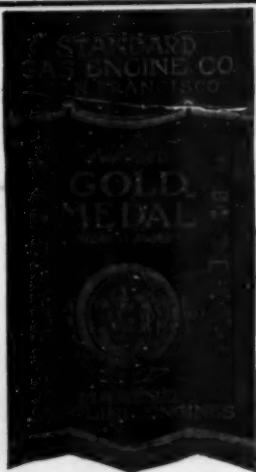
REGAL marine engines are of the four-cycle type and are equipped with both make and break and jump spark ignition. They are made in light, medium and heavy-duty models, in fourteen different sizes. Every engine is built carefully, out of the best material, and the thirteen years' successful service behind

## REGAL OIL ENGINES

must substantiate to some extent our claim that there are no better engines made. An efficient water-cooled muffler designed solely for Regal engines forms part of their equipment, and is attached to the engine by solid iron pipe connections at the factory. We have a successful kerosene burning attachment that will be put on the engines at no extra charge.

Write for more information about Regal engines.

**REGAL GASOLINE ENGINE CO., 74 W. Pearl St., Coldwater, Mich.**



ALASKA-YUKON EXPOSITION

## HEAVY DUTY MARINE ENGINES

Installed in the Finest WORK and PLEASURE BOATS

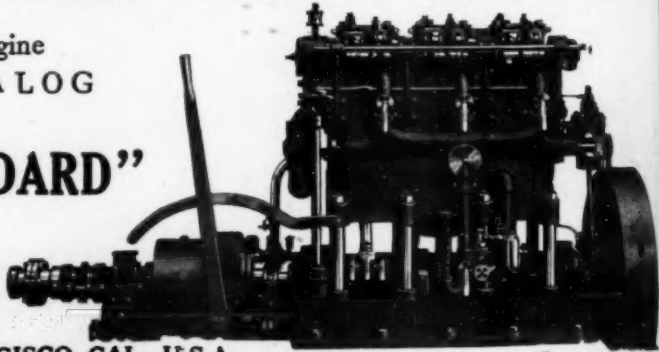
Before purchasing an Engine  
SEND FOR CATALOG  
of the

**ORIGINAL "STANDARD"**

**Standard Gas Engine Co.**

Incorporated June 4, 1901

110 CALIFORNIA ST., SAN FRANCISCO, CAL., U.S.A.



## MOTOR BOATS

Write today for our new 48 page  
Catalog — 27 Models

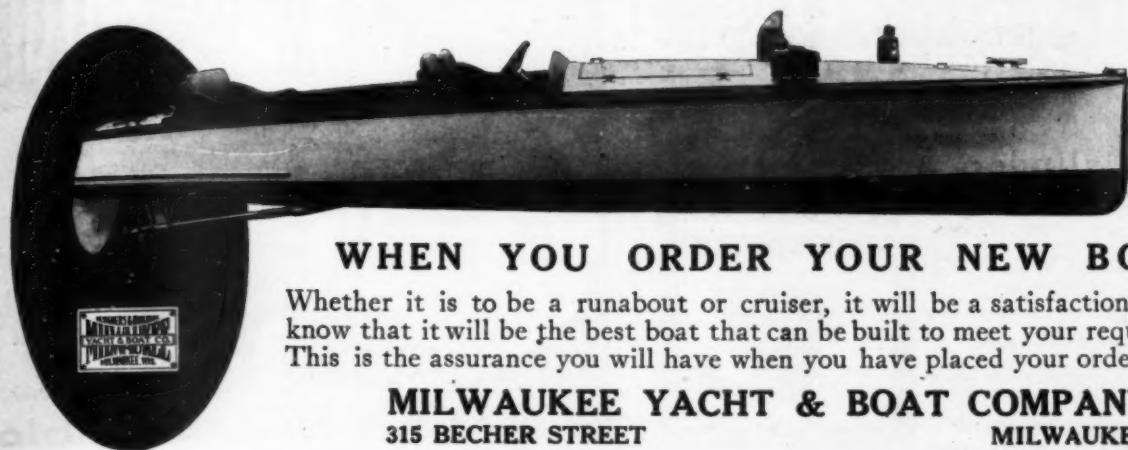
Our "FAULTLESS" designs and system of construction, close inspection, and thorough tryout insures for our customers Service and Satisfaction.



22' x 4' 6" V-BOTTOM RUNABOUT  
A STRONG AND DRY BOAT

**VALLEY BOAT & ENGINE CO.** 605 HESS STREET  
SAGINAW, MICH.



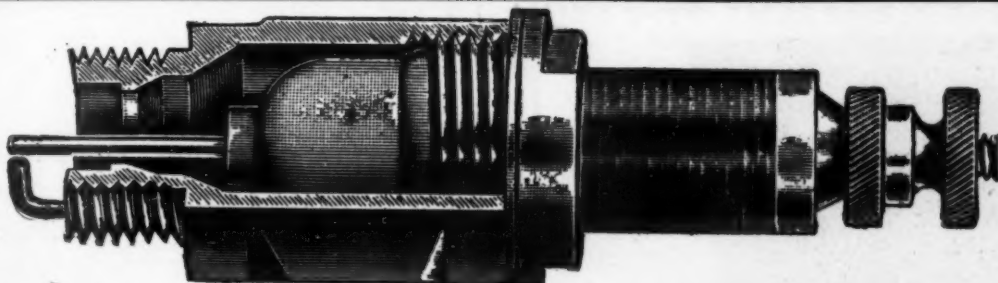


### WHEN YOU ORDER YOUR NEW BOAT

Whether it is to be a runabout or cruiser, it will be a satisfaction to you to know that it will be the best boat that can be built to meet your requirements. This is the assurance you will have when you have placed your order with us.

**MILWAUKEE YACHT & BOAT COMPANY**  
315 BECHER STREET MILWAUKEE

COMET



SOOTLESS

### COMET AND SOOTLESS SPARK PLUGS

MANUFACTURED BY

The Oakes & Dow Co., 15 Chardon St., Boston, Mass.

### WISCONSIN VALVELESS—WISCONSIN ROW-BOAT MOTOR



Extract from a letter from Rev. J. R. Baumann, Red Wing, Minn.:

"Your strong arguments set forth in one of your circulars I considered to be too good to be real. Now that I am one of the fortunate possessors of your motor, having run it from June to November 24th, I must admit that the chief requirements for pleasure motoring—RELIABILITY, ECONOMY and POWER—are so PERFECTLY ASSEMBLED in the WISCONSIN VALVELESS, that every one must consider himself fortunate to be the owner of a WISCONSIN VALVELESS."

Extract from a letter received recently from Mr. A. G. Fradenburgh, Adelphi College, of Brooklyn, N. Y.:

"During the summer of 1912 I used one of your WISCONSIN DETACHABLE ROWBOAT MOTORS on the waters of Long Island Sound. The motor NEVER gave me a minute of trouble. It more than fulfilled your promises and my hopes. I easily made more than eight miles an hour with a 16-foot boat well filled, and the MOTOR WORKED UNTIL I WANTED TO STOP IT. In my opinion it is in a CLASS BY ITSELF among small motors."

We have a motor to meet your requirements. Ask for our 1913 catalogue. It is free and so is our advice. We will help you to select a motor that will please you in every way.



Wisconsin Detachable Row-Boat Motor

**WISCONSIN MACHINERY & MFG. CO., Canal St., MILWAUKEE, Wis.**

### SMALLEY AMERICA'S OLDEST TWO-CYCLE ENGINE DEALERS

**You Should Handle The Smalley**

The most complete line on the market today.

4 H.P. to 250 H.P., in Iron and Aluminum.

Can be operated with Kerosene.

One and two cylinder models made with Make and Break ignition.

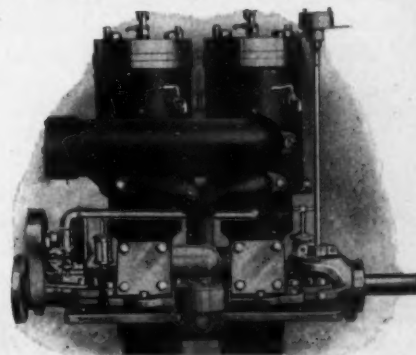
Aluminum Smalley has no competition (patented).

A wonderful selling proposition—High Quality, Low Price.

Write for Agent's Offer; it will be to your interest.

**SMALLEY-GENERAL CO. 2005 Trumbull St. BAY CITY, MICH.**

New York City Branch: 133 LIBERTY STREET



## BROKEN PARTS WELDED

We weld cracked cylinders and crank cases—make them as good as new. All repairs made within twenty-four hours after part reaches our shops. Illustration shows cylinder on which we saved the Consolidated Motor Company of Bridgeport, Conn. \$30.00.

### Scored Cylinders a Specialty

By a special process we repair cylinders scored from a loose wrist pin. Bore is not enlarged—your old piston and rings will fit repaired cylinder. Our charge, on cylinders up to 6" bore, \$12.00.

Where cylinder is worn or scored in many places from lack of oil, so that our special process does not apply, we can re-grind the cylinder absolutely round and fit new piston and rings. Repaired cylinder will have same compression and motor the same power as when new. Charges according to size of bore. Always send one piston with the cylinders.

Write for booklet and full information  
**GUARANTEE**—If within one year from date of repair, part is found unsatisfactory, ship back at our expense (by freight collect). Upon examination, we will refund all charges or, if you prefer, do the work over without extra charge.

**WATERBURY WELDING COMPANY**  
1148-B SO. MAIN STREET, WATERBURY, CONN.



## FITTING-OUT TIME IS HERE



**START** the season right by equipping with a Gray Whistle Outfit, Fog Bell, Gasoline Filter, Reverse Gear Control, Spark and Throttle Control, Combination Flagpole and Electric Aft Light, Combination Screen

and Running Lights, Bow Flagpole, Muffler, Special Valves and Fittings  
"There's Nothing Better." Write for April Catalog  
**GRAY-HAWLEY MFG. CO., 937 Jefferson Avenue, Detroit.**

## MOOR YOUR BOAT TO A BULB SHANK MOORING ANCHOR



and you won't find her up on the beach or down the river after the next bad blow.

When you note a boat owner trying to get the club janitor on the 'phone the morning after a heavy storm, you can make a safe bet that his boat wasn't tied to a bulb shank.

The bulb on the end of the shank makes the anchor lie flat. When a sudden strain comes on the chain, the shank rises and relieves the strain. The partitions in the head prevent its balling up with mud, and the eye for the trip line allows you to get the mooring up at the end of the season without the use of a derrick.

Our free "Mooring Book" will tell you about this anchor. Send for it now.

Fairhaven Iron Foundry Co., No. 2 Water St. Fairhaven, Mass.

Agents:

New York, C. D. Durkee & Co., 2 & 3 South St.; Boston, A. S. Morse Co., 43-45 High St.; Chicago, Geo. B. Carpenter & Co., 430-440 Wells Street.

## CURTISS MOTOR-BOAT WATER CLOSET

We built this Motor-Boat Water Closet after carefully considering the designs and requirements of small cruising boats and the demand for a low-priced fixture, suitable for



\$20

above or below water-line use.

When installed above the water line it only requires a sea-valve on suction pipe. Its simplicity and ease of installation enable anyone to install it.

Manufactured Solely by

**THE J. H. CURTISS CO., 2 South Street, N. Y.**

**FRISBIE MOTORS**  
1 to 6 Cylinder, 3 to 75 H. P., 4 Cycle,  
High Quality, Moderate Cost

A well-balanced combination of simplicity and economy is offered you in the Frisbie motor. Kerosene or Gasoline.

The Frisbie is increasing in popularity with the rising price of fuel because it uses either kerosene or gasoline and is making good everywhere.

Write us for the name of our nearest agent.

MFD BY THE  
**FRISBIE MOTOR CO.** MIDDLETOWN, CONN. COLLEGE ST.

## Erld Quality

RECOGNIZED IN ALL PARTS OF THE WORLD. THE MOST PERFECTLY DESIGNED TWO CYCLE MOTORS ON RECORD.

Manufactured in Standard Type from 3 1/2—20 H.P.

"FEATHERWEIGHT TYPE from 18—60 H.P.

RESULTS ARE PROOF OF POWER.

NOTE SOME ERD RESULTS.

10 H.P. Two Cylinder Standard drove Hydroplane in NEW ZEALAND 80 miles per hour.

12 H.P. Standard drove well-known Hacker Hydroplane 28 miles per hour.

15 H. P. Standard drove Mr. Hand's Design No. 251 22 miles per hour.

20 H.P. Erd Special drove "Viper" boat 28 miles per hour.

If you are interested in Motors which develop extraordinary H.P. and at the same time are DEFENDABLE, and will give you years of SERVICE, investigate the ERD LINE of MOTORS.



**ERD MOTOR CO.**

Write for 1913 catalogue to-day.

SAGINAW, MICH.

## STAR BRAND MARINE HARDWARE

## MAY SPECIAL CUT

### New Pattern Hollow Boat Cleat

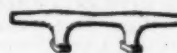


Fig. 270.

Liberal Discount to Jobbers

Length inches	Polished Brass	Nickel Plated
4 1/2	\$0.45	\$0.55 each
5 1/2	.50	.60 "
6 1/2	.60	.70 "
7	.70	.85 "
8	.80	1.00 "
9 1/2	1.35	1.60 "
11 1/2	1.75	2.00 "

Postage Prepaid in U. S.

**AUGUST BUERMANN MFG. CO.**

Dept. C, 212-224 Jelliff Avenue

NEWARK, N. J.

Catalogue on Request.

## Sell It In MoToR BoatinG's Market Place

WHAT HAVE YOU FOR SALE? WHAT DO YOU WANT TO BUY?

Every motor boatman, every yacht owner, sooner or later has something to sell—something for which he has no further use—a boat, an engine, some equipment or other marine article that is just as good for service as ever. The fact that he no longer needs it does not diminish its value to the man who has a use for something of the kind.

There is a good customer looking for every article which is in serviceable condition. The question is to find that customer. That is what MoToR BoatinG's Market Place is for. Send us an advertisement of your discarded articles today.

Rate 3 cents per word. Turn to the Market Place page and see cost of using illustrations.



## Everything for Your Motor Boat at the Lowest Prices

### A FEW OF OUR SPRING SPECIALS

8" Stamped Brass Bell.....	\$1.30
Brass Gasoline Strainer .....	.50
Life Preserver Pillow, Grade A, Approved.....	1.00
Life Preserver Pillow, Grade B, Approved.....	.80
2 by 3 Yacht Ensign.....	1.10
Dry Powder Fire Ext.....	.50

If in need of high grade Motor Boat Accessories, a postal card will bring our 152-page catalogue to you.

**THE MOTOR BOAT & SUPPLY COMPANY**  
1415 West 9th Street     Cleveland, Ohio



## GENUINE HARTMAN PROPELLERS

Are unexcelled for  
**SPEED**  
**CRUISING**  
**TOWING**

Write for Particulars

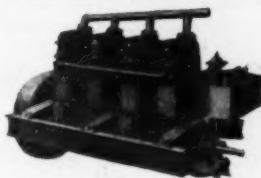
**McFARLAND FOUNDRY & MACHINE CO.** 1 BREUNIG AVE., TRENTON, N. J.  
REPRESENTATIVES:

BOSTON The Lincoln-Dillaway Co. 175 Commercial St.	NEW YORK Topping Brothers 123 Chambers St.	PHILADELPHIA F. Vanderherchen's Sons 7 North Water St.
--	--	--

PORTLAND, OREGON: The Rober Machinery Co.

## \$75.00 RELIANCE MOTORS \$75.00 FORMERLY \$350.00

We have only a few of these Motors left. They are 3 and 4 Cylinder-Valveless 2 Cycle. Bore  $5\frac{1}{8}$  inch by 5 inch Stroke.



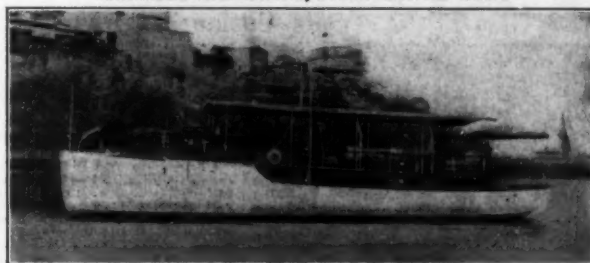
4 Cyl. 38 to 60 H. P.  
3 Cyl. 26 to 45 H. P.  
Speed 800 to 1200 R. P. M.

Each Motor is absolutely guaranteed to be perfect. We are sure that this is the best 1913 offer presented to Motorboatists. Write for catalog, etc.

### NICHOLDS CO.

430 GRAND RIVER AVENUE :: :: DETROIT, MICH.

## New York Yacht, Launch & Engine Co. MORRIS HEIGHTS, NEW YORK CITY



ABALONE, E. H. Lyon, New York.

Builders of  
**20th CENTURY MOTORS**  
12 H. P., 2 cylinder, to 100  
H. P., 6 cylinder  
Send for catalogue

Builders of  
**YACHTS**  
of all description  
Let us figure on your new boat

THE IMPROVED BALL  
**REVERSE GEAR**  
for MOTOR BOATS  
Made only of  
**HARDENED STEEL  
SPUR GEARS**  
Most Reliable  
Highest Grade  
Easiest to Install  
Four Sizes Carried In Stock  
Send For Catalog  
New York Gear Works  
56 Greenpoint Ave., Brooklyn, N. Y.

**FREE DELIVERY IN THE UNITED STATES  
BY PARCEL POST, FREIGHT OR EXPRESS**  
Write us for quotation on anything in the motor boat supply line delivered prepaid to your city  
Our Annual Catalog is the largest, most complete, up-to-date and authoritative Dictionary of the Automobile Supply Market of any book published. It has come to be recognized as one of the Standard Reference Works of the Industry, and is on file in the TECHNOLOGY DIVISION of the NEW YORK PUBLIC LIBRARY, FIFTH AVENUE and FORTY-SECOND ST., NEW YORK CITY, and other Public Libraries, and in the offices of American Consuls, Universities, Y. M. C. A. Schools, Publishers, Automobile Clubs, Engineers' Offices, Purchasing Departments, etc.  
1913 Catalog mailed to anyone on request. Write for a copy. You will find it interesting  
**CHAS. E. MILLER**  
HOME OFFICE 97-99-101-103 READE STREET, NEW YORK CITY  
Manufacturer, Jobber, Exporter and Importer  
Branches:  
NEW YORK CITY: BROOKLYN, N. Y., BUFFALO, N. Y., ALBANY, N. Y.  
CLEVELAND, O., BOSTON, MASS., HARTFORD, CONN., DETROIT, MICH.  
ATLANTA, GA., PHILADELPHIA, PA., NEW ORLEANS, LA., NEWARK, N. J., SPRINGFIELD, MASS.

## MOORE REVERSE SWITCH

(For two cycle engines only)

will do away with all your reversing troubles. Compared with a gear, it is cheaper, more reliable and more efficient.

Reversing requires only a light jerk on the chain. No other attention necessary—engine will then reverse itself.

### GUARANTEED

For Life of Engine

and sent on money-back-if-not-satisfied terms. Cost \$7.50 to \$10.00. Full particulars sent gladly. Write.

**J. B. MOORE,** (Dept. F-5)  
136 Liberty Street New York City



## LOBEE CIRCULATING AND BILGE PUMPS ARE USED BY

### THE FASTEST POWER BOATS

"Reliance II", "Reliance III", "Reliance IV", "Baby Reliance", "Gretchen II", "Intruder", "Commodore", "Kitty Hawk II" and many others, all Champions, are equipped with LOBEE PUMPS.

The main reason why the successful Power Boaters use Lobee Pumps, is that no other pump on the market can be depended upon for continuous service.

IT WILL PAY YOU to investigate the merits of the LOBEE PUMP—are the most universally indorsed of any pumps made. Write for circular B.

**LOBEE PUMP & MACHINERY CO.,** 57 Bridge St., Buffalo, N. Y.



## BOAT FITTINGS & SUPPLIES



**OSHKOSH  
METAL PRODUCTS CO.**  
OSHKOSH, WIS.

We manufacture and carry in stock everything to equip boats. Get our catalogue, free, and compare our prices with others. Goods guaranteed.

Drop us a card and get our catalogue by return mail.

If you don't buy of us, we both lose.

## PERFECTION Pneumatic Mattresses, Fibre Cushions, Spray Hoods



Fully Guaranteed

**Mattress**—Comfortable, Portable, Durable; mildew and vermin proof. Dedicated, occupies little space. Made to fit any berth or seat. Used like a raft, supports 12 persons. 8,000 in use on American and Red Star Liners.

**ACME CUSHIONS**—Soft, comfortable. Filled with downy foam, will not mat down—covered with Spanish Artificial Leather in colors. Efficient life preserver.

**Spray Hoods**—Wood or brass frame. Prices and styles suitable for every boat.

**Life Preservers**—All styles and sizes guaranteed to pass Government inspection.

Send for special catalogue M, full of interesting information and illustrations. Mailed free.

**PNEUMATIC MFG. CO.** 536 17th STREET, BROOKLYN, NEW YORK

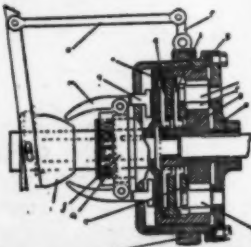
## OXFORD MARINE REVERSE GEAR

### The Gear That Is Different

The Oxford Reverse Gear has a positive disc clutch which locks the driving and the driven shafts together solidly so there is absolutely no strain on the teeth. This permits reversing the propeller quickly without fear of strain, wear or breakage of any part.

The grinding noise of most reverse gears is caused by broken, chipped or worn teeth. The Oxford gear gives the longest possible wear without getting noisy. It is especially simple, compact and durable.

Write today for information and prices.



**The L.D. ROBBINS CO.** 156 BROAD ST., LYNN, MASS.



See the Life Belt

### WICKER CHAIRS

that are life preservers. Suggested by Mr. Lunders, of the Lunders Marine Const. Co. (A man who knows.)

These chairs for yacht and launch furnishing are creating a sensation with the Yachting Public.

Write for Catalogue.

**Wicker-Kraft Co.**  
15 S. Water St.  
Newburgh, N.Y.



FAMOUS PETER PAN MODELS  
HIGHEST GRADE

### Reliance Runabouts MARINE AUTOS

IN STOCK  
IMMEDIATE DELIVERY

21 Footers with 4 cylinders  
20 Horse Power Motor **\$875.**

Carry Six Passengers  
ASK ANY OWNER Write for Literature

MOTORS IN STOCK  
Reliance Continental

Best in the world  
4 cycle, self-oiling. Model R. 28 H P  
Model J. 40 H. P.

Get our Motor Book

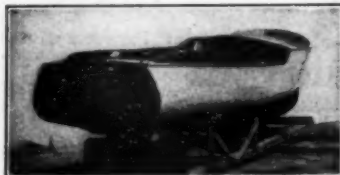
**Reliance Motor Boat Company**  
210th Street, Harlem River, New York

## DOYLE "V" BOTTOM RUNABOUT—21 x 5 ft.

With Curved Sides

The best boat ever conceived. Contains all the physical advantages of the "V" bottom, with the beauty of the round bottom boat, with all its graceful lines. Specifications: Length, 21 feet; beam, 5 feet; draft, 21 inches; cedar planking, mahogany trim, copper fastenings; 2-cylinder, 7-h.p., Erd motor, reverse gear, salt water equipment, etc. **\$495.00**

**K. D. FRAMES AND COMPLETED LAUNCHES**



FIVE OTHER MODELS

18-ft. Family Launch.

26-ft. Runabout.

20-ft. Stepless Hydroplane.

22½-ft. Auto Express.

28-ft. Raised Deck Cruiser.

**THE BAYONNE LAUNCH CO.,** EAST 38th ST., BAYONNE, N.J.  
Show Room: 58 Church St., New York

## SPLITDORF

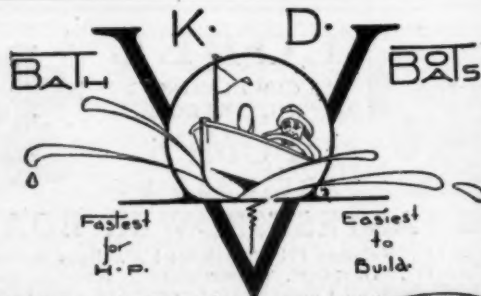
"Always There"

SPLITDORF "TS" COILS are the newest and most serviceable transformers on the market to-day. Equally effective with the older as well as the latest SPLITDORF magnetos, the "TS" COILS can be relied upon at all times.

Write for new catalog

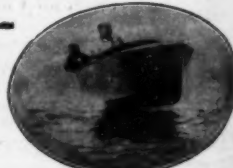
**SPLITDORF ELECTRICAL CO.**

98 Warren Street, Newark, N. J.



If interested in a complete boat, ready to run, a hull ready for engine, a knock-down boat, full size patterns, or plans; for pleasure, work, speed or comfort; let us know your requirements and get our figures before purchasing. Our reputation and the fame of Bath V. Boats is too well known to dwell on here. Catalogue G gives our line and will be sent on request.

**Bath Marine Construction Co., Bath, Me.**  
Henry Douglas Bacon, Managing Owner.





## Stop Cleaning Brass

Equip Your Boat with Cupror Fittings

# CUPROR

THE  
GOLD-LIKE  
METAL

Does not turn green nor corrode.

Kept clean and bright with soap and water.

No polishes required.

Cupror fittings cost very little more than brass and effect a large saving in upkeep.

Obtainable from your own marine hardware dealer, or boat builder, or from the manufacturer.

**L. C. SMITH CO., Inc., Bridgeport, Conn.**  
**F. W. BARKER, Sales Manager, 50 Church Street, New York**

## ANDERSON GLASS AND STEEL SPARK-PLUG



### A WINDOW to the Engine

Glass and steel welded into one solid integral body makes the Anderson absolutely the strongest and most enduring plug on the market.

Better pay \$1.50 once than a dollar a dozen times. That's about the ratio of Anderson Spark Plug life, compared with ordinary plugs.

ALL SIZES

**ANDERSON SPARK PLUG CO.**  
206 North Holliday Street Baltimore, Md.

## ELECTRIC SEARCHLIGHTS

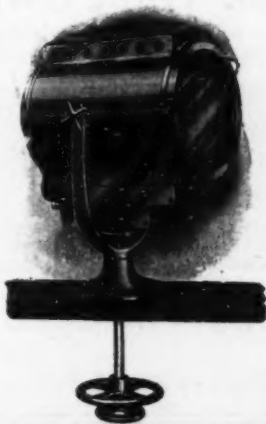
Send TODAY for Catalog "A" Containing Valuable Information About Modern Lighting Plants.

We have equipped some of the finest power boats, yachts and launches afloat with Direct Connected Generating Sets. All leading ship and launch builders use them, because they are unequalled in brilliant, dependable service.

Searchlights in designs from 7 in. to 60 in. diameter.

Let us tell you about our big line:

**The Carlisle & Finch Co.**  
261 East Clifton Avenue  
CINCINNATI, OHIO

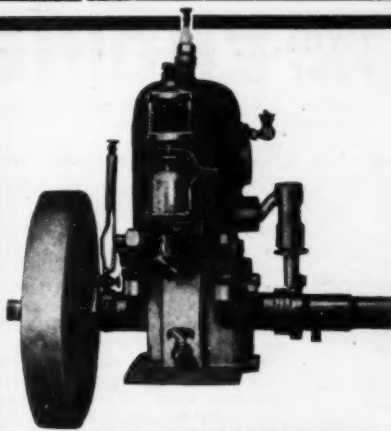


Fulton Closet with Outboard Connections and Sea Valves, \$31.00. Complete and ready to install (no plumber required). See Prize essay, Motor Boating, June, 1912 (page 22).

**GUS. A. DIEM**

30 FULTON STREET

NEW YORK CITY



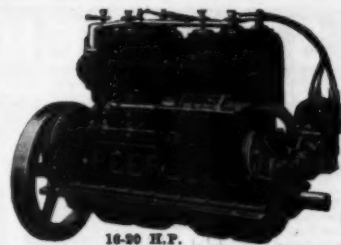
# \$31 <sup>31</sup>/<sub>100</sub>

For this high grade 1½ to 2 H. P. Motor complete.

Write for further particulars and see what a few dollars will buy.

A TWO (2) YEAR  
GUARANTEE WITH  
EACH MOTOR

**GRIES ENGINE CO.**  
45 FORT ST. (E.) DETROIT, MICH.



## This Peerless Four Cycle Motor Only \$300

Here is the motor you want, at the price you want to pay. Before you buy any engine, give this careful study.

The Peerless Engine is high grade in design, workmanship and materials. It is built by motor experts, men who have devoted their lives to this work. Wonderfully accessible, easy to install, inexpensive to run.

4 Cyl. 16-20 H.P. Bore 4 in., Stroke 5 in., \$300 complete.  
2 Cyl. 8-10 H.P. Bore 4 in., Stroke 5 in., \$175 complete.

Reverse gear on lower half of base, \$40 extra.

Write today for catalog.

**PEERLESS ENGINE COMPANY, Buffalo, N. Y.**

## A NEW PRIMING COCK

Will Not Leak, Stick,  
nor Seize

Will Grind in Instantly

Cheaper than the troublesome  
old kind

MADE BY

**MORGAN MFG. COMPANY**  
JOHN ST. NEWPORT, R. I.



NOTE THIS  
BALL JOINTED  
VALVE WITH  
SCREW DRIVER  
SLIT FOR  
GRINDING  
NOTE THIS  
LARGE  
STRAIGHT  
HOLE

Which is a guarantee  
of service and  
quality

M'n'frs of Morgan's  
Hose Clamps and  
Utility Tools

## BROWN FOLDING STOOL

The extended or Long Arm Stool, represented here, will be found almost indispensable for helmsman in MOTOR BOATS

Hangers are  
extended 9 inches  
making this stool  
the BEST for

**MOTOR  
BOATS**

or any place where economy  
of space is desired.

Special price to dealers.  
Write for discounts.

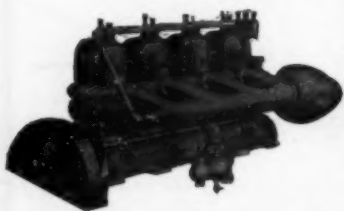
**BROWN FOLDING  
STOOL CO., Everett, Mass.**



Patented, July 5, 1904

## LEARY TWIN PORT ENGINE

has two independent fuel supplies (patented) each attached to a Schebler carburetor. Both carburetors are permanently set so that one gives a perfect mixture at slow and medium speeds, and when both are in action high power and splendid regulation is the result. It is the only system with which perfect control can be obtained.



**SOME OF ITS FEATURES.**  
Two Schebler Carburetors—one on each side. Two By-Pass Ports—opposite each other. Four Exhaust Ports—set on quarters. Four Intake Ports—set on quarters. Non-Backfiring Plates—detachable. Crank Balance Disks—giving 7 lbs. case pressure. Baldridge Reverse Gear—Atwater Kent System of Ignition—Oil Gasolene Lubrication.

ONE TO SIX CYLINDERS—5 TO 30 H. P.—CATALOG.  
Leary Gasolene Engine Company 1555 Dewey Avenue  
Rochester, N. Y., U. S. A.

## HYDREX SILENCER

**Stops Noise Increases Power Economizes Fuel**  
**Absolutely No Back Pressure**

Designed on a new principle, scientifically applied, the Hydrex Coole—silencers without the objectionable back pressure. Not a thin sheet metal cylinder or muffler. No fire danger—cool to the hand. Substantial rust resistant metal. Fits any motor, 2 or 4 cycle. Takes least room in boat. Nothing to wear out makes it cheapest because best.

Write today for prices and sizes to fit your motor—full particulars free.



**HYDREX SILENT EXHAUST WORKS**

36 Church St., New York City  
Chicago, Geo. B. Carpenter Co., 436 Wells St.

## Jencick

1912 Models

are simply further proof of the undisputed fact that

**QUALITY COUNTS**

Quality of Design      Quality of Materials  
Quality of Workmanship      Quality of Service

We build heavy duty Motors from 15 to 75 H. P.

WRITE FOR BOOKLET

**"JENCICK"**

Port Chester

::

N. Y.

## KRICE Carburetor

20% More Power

30  
DAYS  
TRIAL

We absolutely guarantee the Krice Carburetor to use less gasoline—give better control and 20% more power. Your money back if it doesn't.

The only sure way to know that you are getting all the power from your engine is to try a Krice Carburetor. Write today for literature.

**KRICE CARBURETOR CO.**  
1281 Oakland Ave., Detroit, Mich.



## "48 HOURS WITHOUT STOP" Kahlenberg MARINE MOTORS

Capt. Louis Olson, of the 122' schooner "J. H. Stevens," writes: "The three-cylinder Kahlenberg is giving the best of satisfaction. We are running on kerosene entirely and get the same good results as gasoline, with less than half the cost. Our runs are continuous from 24 to 48 hours, in all kinds of weather."

The Kahlenberg runs on kerosene or distillate as well as gasoline or gasoline. Less than one pint of fuel per horsepower per hour. Self starting. Reverses like a steam engine. Medium and heavy duty type. 2 to 75 H.P. 1 to 3 cylinders.

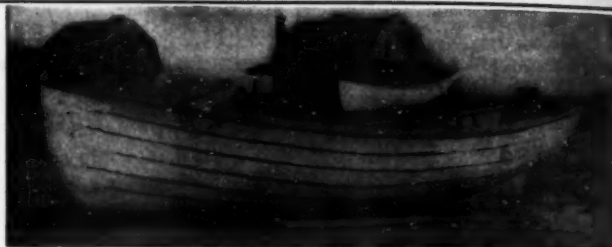
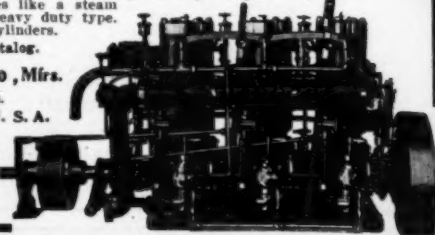
Write today for Catalog.

**Kahlenberg Bros. Co., Mfrs.**

Monroe & 12th Sts.

Two Rivers, Wis., U. S. A.

Northwestern Distributors: Geo. B. Adair & Son Co., Seattle, Wash. Portland, Ore., Vancouver, B. C.



W. H. Jerolamon's Seabright dory.  
**A SEABRIGHT DORY**

Willard H. Jerolamon, of Galilee, N. J., is specializing on a 30 ft. x 8 ft. 8 in. Seabright dory, which is copper fastened and brass screwed throughout. The planking is of 1/2 in. cedar in long lengths and the framing is of white oak throughout. The boat is finished with three coats of paint and is sold complete with a 5 h. p. motor for \$810.

**Willard H. Jerolamon**

One of the oldest boat building establishments on the New Jersey coast. Established 1890.

**DESIGNER AND BUILDER OF LAUNCHES, KNOCKABOUTS, New Boats, Sail Boats, Seabright Skiffs and Ocean Pound Fishing Boats. Gasoline Engines Installed. Boats Stored.**

P. O. STATION A, LONG BRANCH, GALILEE, N. J.

## BE YOUR OWN BOAT BUILDER

or let us build it for you with a small additional expense. Our complete up to date factory reduces the cost of production to a minimum. We build all sizes, from 9 ft. Dinghy to 60 ft. Cruiser. This illustration represents one of our latest creations. Will furnish this with or without engine installed. Should you have some spare time, we



would advise you to send for our frames and put them together yourself and thereby save 75% of cost. The illustration of frame applies to our models from 18 to 40 ft. cruisers. Other special designs submitted if desired. Send for further information and catalog and special quotations.

**Pioneer Boat & Pattern Works., Wharf 15, Bay City, Mich.**

## PUT THIS MOHAWK MOTOR In Your Boat

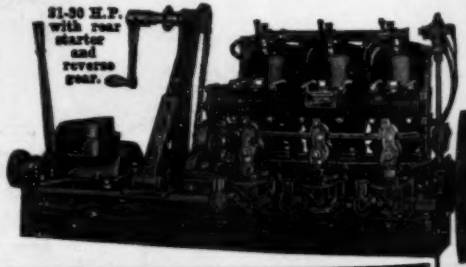
There isn't a better motor than the Mohawk made. It is the lowest priced high-grade marine motor on the market. We guarantee satisfaction. You cannot lose, as we will refund your money if the Motor does not come up to your expectations. Two cycle, three port and combination two and three port type. Our auxiliary air intake and double ignition increase power 15 or 20%. Water jacketed exhaust manifold with provision for direct exhaust for racing. All latest improvements and several exclusive features.

11 Models  
1, 2, 3 Cylinders  
3 1/2 to 30 H.P.

Write today for our catalog

**The S. R. Mfg. Co.**

Schenectady, N. Y.







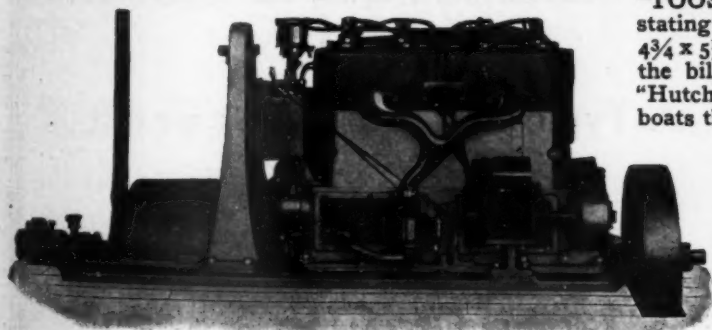
Always Used by Men Who Know

# LOEW VICTOR MOTORS

YOU ARE going to notice right through this season that every time some recognized motor boating expert writes of his exceptional performances or his future plans, his power plant is always the Loew Victor. Watch this, and follow the men that lead.

Take, for instance, the recent article by Richard Hutchinson in *POWER BOATING* about his new 35-ft. cruiser "TOOSOON." You undoubtedly saw the editorial note stating that Mr. Hutchinson bought a six-cylinder  $4\frac{3}{4} \times 5\frac{1}{2}$ -in. Loew Victor, "which he figures will fill the bill." And as *POWER BOATING* says further, "Hutchinson has forgotten more about small motor boats than 99 per cent. of us will ever know."

The same with Geo. P. P. Bonnell. His two articles describing his famous trip to Nova Scotia and the building of "Old Glory II" are yours now in book form if you like. You'll learn a lot about Loew Victor reliability by reading it.



## A YEAR AHEAD

Four and six cylinder Loew Victor Motors for 1913 are equipped with a Leece-Neville Electric Self-Starting and Lighting Outfit which not only starts the motor cold, but furnishes ample and undiminished current for running lights, cabin lights and search-light. Does away with complicated lighting plants in present use. Operates automatically without attention—and always works.

Loew Victor  
Motor  
Model 5

### LOEW VICTOR MOTORS FOR 1913

Medium Duty	High Speed
4-Cyl. 20 H.P.	4-Cyl. 30 H.P.
3 " 12 " "	4 " 40 " "
3 " 18 " "	6 " 60 " "
4 " 25 " "	
6 " 35 " "	

The Loew Manufacturing Co. 1907 Madison Ave. Cleveland, Ohio

## What It Means To Build Engines —“3 to 150 H.P.”



**“W**HAT does it mean when you say you build engines 3 to 150 H. P.?” asked a visitor at the New York Show.

“There’s your answer,” replied the “Buffalo” Man pointing to two engines side by side as shown on this page.

Date \_\_\_\_\_

**Buffalo Gasolene Motor Co.:**  
Send me information concerning the best power plant for a boat of the type before which I have marked “X” and of the size here stated:

<input type="checkbox"/> Auto Boat	<input type="checkbox"/> Racing Boat
<input type="checkbox"/> Auxiliary	<input type="checkbox"/> Runabout
<input type="checkbox"/> Cruiser	<input type="checkbox"/> Str. Paddle Wheel
<input type="checkbox"/> Fish Tug	<input type="checkbox"/> Tug Boat
<input type="checkbox"/> Open Launch	<input type="checkbox"/> Work Boat

Length \_\_\_\_\_ Beam \_\_\_\_\_  
Draft \_\_\_\_\_ Speed desired \_\_\_\_\_

Name \_\_\_\_\_  
Address \_\_\_\_\_

“How many models do you build?”  
“Nineteen—in medium speed, slow speed and high speed.”

“What kind of boats are they used for?”

“Everything from a canoe to a car ferry.”

“Do they all operate on gasolene?”

“No, fully a third of the engines we build are equipped for kerosene—probably more than that.”

“Is your kerosene vaporizer any good?”

“We have been using it on engines for years, and they run without giving any trouble and save money.”

“I have heard that your engines are very high priced.”

“Then someone has been ‘stringing’ you. As a matter of fact, they are the cheapest engines on the market when you figure it on the basis of cost *per service unit*. You may be able to get an engine of the same *rated* horsepower for less money, but you cannot get the same service for anything like the price. You can get more service from a ‘Buffalo’ for your dollar than from any other marine engine.”

The 1913 “Buffalo Book” is just out. We will gladly send you a copy if you will fill in this coupon and return it to us.

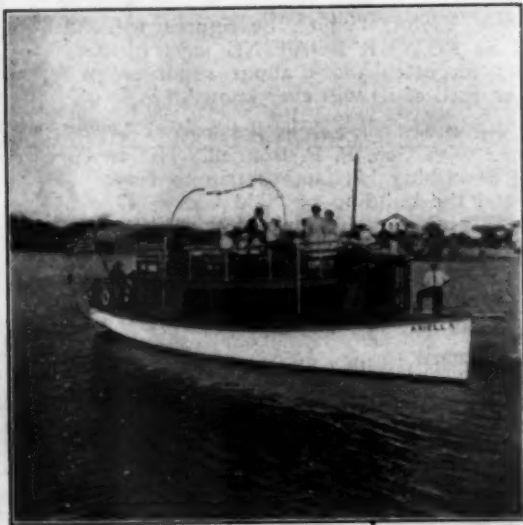
*“The Engine of Constant Service”*

**BUFFALO GASOLENE MOTOR CO.**

1274-1286 NIAGARA STREET - - - BUFFALO, N. Y.

## 18,000 Miles with a Lamb Engine

Lamb Engine owners get perfect service—the kind of service every owner wants to get from his engine. No matter when or where, how far or how short notice, every Lamb Engine is ready to start and go as far as the owner’s desires carry him.



“ARIELLA,” Ira C. Lambert, Owner

### A Typical Record



ROCKLEDGE, FLA., April 1st, 1913.

MR. A. E. ELDREDGE,  
Lamb Engine Co. of N. Y.

Dear Sir:—We left Rockledge this morning 5.35 A. M. on our way to Toms River, N. J.

The boat has finished 18,000 miles since May 30th, 1911. Expect to be in N. Y. 15th to 20th.

Very truly yours,

IRA C. LAMBERT.

Utmost reliability is a Lamb characteristic. Quietness and smoothness of operation, power, strength, economy, durability, freedom from troubles and repairs—all these good qualities are possessed by the Lamb in the highest degree. It is a thoroughly high grade engine in every detail of design, materials, workmanship and performance. All models are of the long stroke, four cycle type.

10 Models. High Speed, Medium Duty, and Heavy Duty. Two, Three, Four and Six Cylinders. Twelve to Sixty-Seven Horse-Power. Write for latest Catalog

Manufactured by the Lamb Boat and Engine Co., Clinton, Iowa

**Lamb Engine Company of New York,** 30 Church Street : : New York City

Eastern and Foreign Distributors



# Anderson

## ENGINES




**The Real Test**

Efficiency—the *willingness* and *ability* to go fast or slow and keep on going under the most adverse conditions—is the *efficiency* test that *proves* the actual worth of an **Anderson Engine**.

**2½ H. P. Single to 150 H. P. "Six"**

We have an **Anderson Engine** to fit your needs—whether for canoe or cruiser, for salt or fresh water. Ask for the proof.

**ANDERSON ENGINE CO.**  
Main Office: 136 S. DEARBORN STREET - CHICAGO, ILL.  
New York Office: 71 CORTLANDT STREET



## A Matthews Craft Insures Pleasure and Safety

¶ The modern power yacht is unparalleled as a producer of the cleanest, most healthful sport and recreation the world has ever known. Nothing approaches it in comparison with the return for the time and money invested. The comforts, accommodations and conveniences, and the unlimited possibilities for travel and enjoyment, make the present popularity of the cruising power yacht merely the expression of the hereditary and century-old desire of all men to know and feel and live out the longing for the water which is born in all of us.

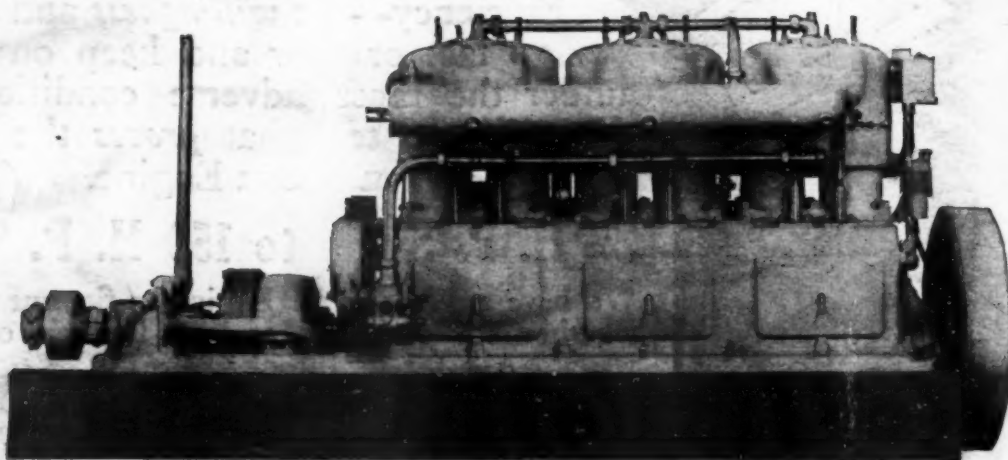
*Order for Florida boats should now be placed.*

**The Matthews Boat Company,** CRUISING YACHTS OF QUALITY **Port Clinton, Ohio**

**MATTHEWS CRAFT** 

# Sterling

THE ENGINE of REFINEMENT  
For the  
finest boats that float



70-90 H.P. HEAVY DUTY 6½" x 9"

## THE NEW STERLINGS

**H** EAVY Duty 70-90 H. P.—Six Cylinders—Bore 6 1-2 Inches—Stroke 9 Inches.  
The Most Flexible Heavy Duty Engine Built. 350 to 600 R. P. M.

350 R.P.M.....	60 H.P.	500 R.P.M.....	90 H.P.
400 " .....	70 H.P.	550 " .....	95 H.P.
450 " .....	80 H.P.	600 " .....	100 H.P.
Weight .....		3400 pounds	

**T** HE Four Cylinder 45-60 H. P. Heavy Duty Engine Is of the Same Type,  
with the Same Bore and Stroke and the Same Flexibility.

350 R.P.M.....	40 H.P.	450 R.P.M.....	53 H.P.
400 " .....	45 H.P.	500 " .....	60 H.P.
Weight .....		2575 pounds	

**O** THER new STERLINGS are the 20-35 H. P. Medium Duty and Speed  
Engine. Four Cylinders—Bore 4 3-8 Inches—Stroke 5 1-2 Inches.

**T** HE 30-50 H. P. Medium Duty and Speed Engine. Four Cylinders—Bore  
5 1-2 Inches—Stroke 6 Inches.

**L** ET us give you complete specifications of these new engines. You've never  
seen anything like them before. They're years ahead of their time. The  
six cylinder engines are equipped with either air or electric self starter;—The four  
cylinder engines with electric starter if desired. Also electric lighting system.

*The STERLING catalog sent free on request.*

**Sterling Engine Co., 1254 Niagara Street, Buffalo, U. S. A.**

NEW YORK.....BRUNS KIMBALL COMPANY, 132 LIBERTY STREET  
BOSTON.....A. P. HOMER, 156 STATE STREET  
PHILADELPHIA.....J. J. FARLEY, BOURKE BUILDING  
BALTIMORE.....UNGER & MAHON, 119-121 E. YORK STREET  
MONTREAL, QUE.....PYKE-FUTNAM MOTOR CO., 371 ST. JAMES ST.

CHICAGO.....WARREN SALES COMPANY, 1413 MICHIGAN AVENUE  
SEATTLE, WASH.....RACINE BOAT & AUTO COMPANY  
VANCOUVER, B. C.....HOFFAR MOTOR BOAT COMPANY  
TACOMA, WASH.....NICKERSON, McFARLAND MACHINERY CO.  
HOUSTON, TEXAS.....BARDEN ELECTRIC & MACHINERY CO.





N  
A  
Y  
(

N  
A  
Y

N  
A  
Y  
x